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Mobile IPv6 Management Information Base

Status of This Memo

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Abstract

This memo defines a portion of the Management Information Base (MIB), the Mobile-IPv6 MIB, for use with network management protocols in the Internet community. In particular, the Mobile-IPv6 MIB will be used to monitor and control the mobile node, home agent, and correspondent node functions of a Mobile IPv6 (MIPv6) entity.

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1. The Internet-Standard Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to section 7 of RFC 3410 [RFC3410].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP).

Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIv2, which is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579] and STD 58, RFC 2580 [RFC2580].

2. Overview

2.1. The Mobile IPv6 Protocol Entities

Mobile IPv6 (MIPv6) [RFC3775] specifies a protocol that allows nodes to remain reachable while moving around in the IPv6 Internet. An entity that implements the MIPv6 protocol is a MIPv6 entity. There are three types of entities envisaged by the MIPv6 protocol.

mobile node (MN): A node that can change its point of attachment from one link to another, while still being reachable via its home address.

correspondent node (CN): A peer node with which a mobile node is communicating. The correspondent node may be either mobile or stationary. (Note that a correspondent node does not necessarily require MIPv6 support.)

home agent (HA): A router on a mobile node’s home link with which the mobile node has registered its current care-of address. While the mobile node is away from home, the home agent intercepts packets on the home link destined to the mobile node’s home address, encapsulates them, and routes them to the mobile node’s registered care-of address.

This document defines a set of managed objects (MOs) that can be used to monitor and control MIPv6 entities.

2.2. Terminology

The terminology used in this document is consistent with the definitions used in Mobile IPv6 protocol specification [RFC3775].

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "NOT RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in BCP 14, RFC 2119 [RFC2119].

3. Mobile IPv6 Monitoring and Control Requirements

For managing a MIPv6 entity it is necessary to monitor the following:

- o capabilities of MIPv6 entities
- o traffic due to MIPv6
- o binding-related statistics (at home agent, correspondent node, and mobile node)
- o binding details (at home agent and correspondent node)
- o history of Binding Updates (at home agent, correspondent node, and mobile node)

The MIPv6 protocol document stipulates that several MIPv6-related parameters should be manually configurable. The MIPv6 MIB should define managed objects that can be used to configure the related parameters, for example:

- o the preference value the home agent will use in Router Advertisements;
- o the lifetime value the home agent will use in Router Advertisements;
- o whether a home agent will send ICMP Mobile Prefix Advertisements to mobile nodes;
- o whether a home agent will respond to ICMP Mobile Prefix Solicitation messages from mobile nodes; and
- o whether a home agent will process multicast group membership control messages from mobile nodes.

4. MIB Design

The basic principle has been to keep the MIB as simple as possible and at the same time to make it effective enough so that the essential needs of monitoring and control are met. It is envisaged that wherever possible existing MIBs will be used (e.g., IPSec MIB, Neighbor Discovery MIB, Tunnel MIB [RFC4087]) for monitor and control of MIPv6 entities.

It is assumed that the Mobile IPv6 Management Information Base (MOBILEIPV6-MIB) will always be implemented in conjunction with the IPv6-capable version of the IP-MIB [RFC4293]. The MOBILEIPV6-MIB uses the textual conventions defined in the INET-ADDRESS-MIB [RFC4001].

The Mobile-IPv6 MIB is composed of the following groups of definitions:

- mip6Core: a generic group containing objects that are common to all the Mobile IPv6 entities.
- mip6Ha: this group models the home agent service. It is composed of objects specific to the services and associated advertisement parameters offered by the home agent on each of its links. It also contains objects pertaining to the maintenance of the home agent list on each of the links on which the service is offered.
- mip6Mn: this group models the mobile node service. It is composed of objects specific to the Dynamic Home Agent discovery function and related parameters. It also contains objects that record the movement of the mobile node.
- mip6Cn: models the correspondent node and is primarily scoped to its participation in the Return Routability procedure for achieving Route Optimization triggered by the mobile node.
- mip6Notifications: defines the set of notifications that will be used to asynchronously monitor the Mobile IPv6 entities.

The tables contained in the above groups are as follows:

mip6BindingCacheTable	: models the binding cache on the home agent and correspondent node. It contains details of the Binding Update requests that have been received and accepted.
mip6BindingHistoryTable	: tracks the history of the binding cache.
mip6NodeTrafficTable	: the mobile node-wise traffic counters.

```
   mip6MnHomeAddressTable  : contains all the home addresses
                             pertaining to the mobile node and
                             the corresponding registration status.
   mip6MnBLTable           : models the Binding Update List on the
                             mobile node.  It contains information
                             about the registration requests sent
                             by the mobile node and the
                             corresponding results.
   mip6CnCounterTable      : contains the mobile node-wise
                             registration statistics.
   mip6HaConfTable         : contains the configurable
                             advertisement parameters for all the
                             interfaces on which the home agent
                             service is advertised.
   mip6HaCounterTable      : contains registration statistics
                             for all mobile nodes registered
                             with the home agent.
   mip6HaListTable         : contains the list of all routers
                             that are acting as home agents on
                             each of the interfaces on which
                             the home agent service is offered
                             by this router.
   mip6HaGlAddrTable       : contains the global addresses of
                             the home agents.
```

5. The Mobile-IPv6 MIB.

```
      MOBILEIPV6-MIB DEFINITIONS ::= BEGIN
       IMPORTS
         MODULE-IDENTITY, mib-2, Unsigned32, Integer32, Counter32,
         Gauge32, Counter64,
         OBJECT-TYPE, NOTIFICATION-TYPE
                    FROM SNMPv2-SMI
         TEXTUAL-CONVENTION,
         TruthValue, DateAndTime, TimeStamp
                    FROM SNMPv2-TC
         MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP
                    FROM SNMPv2-CONF
         InetAddressType, InetAddress
                    FROM INET-ADDRESS-MIB
         ipv6InterfaceIfIndex
                    FROM IP-MIB
         ;

     mip6MIB MODULE-IDENTITY
          LAST-UPDATED "200602010000Z"        --  1st February 2006
          ORGANIZATION "IETF mip6 Working Group"
          CONTACT-INFO
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                        USA

                   Tel: +1-408-527-6109
                E-mail: sgundave@cisco.com

        Support Group E-mail: mip6@ietf.org"

        DESCRIPTION
                "The MIB module for monitoring Mobile-IPv6
                 entities.

                 Copyright (C) The Internet Society 2006.  This
                 version of this MIB module is part of RFC 4295;
                 see the RFC itself for full legal notices.
                "

        REVISION    "200602010000Z"      -- 1st February 2006
        DESCRIPTION "Initial version, published as RFC 4295."

             ::= { mib-2 133 }


    -- The major groups

    mip6Notifications        OBJECT IDENTIFIER ::= { mip6MIB 0 }
    mip6Objects              OBJECT IDENTIFIER ::= { mip6MIB 1 }
    mip6Conformance          OBJECT IDENTIFIER ::= { mip6MIB 2 }
    mip6Core                 OBJECT IDENTIFIER ::= { mip6Objects 1 }
    mip6Mn                   OBJECT IDENTIFIER ::= { mip6Objects 2 }
    mip6Cn                   OBJECT IDENTIFIER ::= { mip6Objects 3 }
    mip6Ha                   OBJECT IDENTIFIER ::= { mip6Objects 4 }

    -- The sub groups

    mip6System               OBJECT IDENTIFIER ::= { mip6Core 1 }
    mip6Bindings             OBJECT IDENTIFIER ::= { mip6Core 2 }
    mip6Stats                OBJECT IDENTIFIER ::= { mip6Core 3 }

    mip6MnSystem             OBJECT IDENTIFIER ::= { mip6Mn 1 }
    mip6MnConf               OBJECT IDENTIFIER ::= { mip6Mn 2 }
    mip6MnRegistration       OBJECT IDENTIFIER ::= { mip6Mn 3 }

    mip6CnSystem             OBJECT IDENTIFIER ::= { mip6Cn 1 }
```

```
   mip6CnStats             OBJECT IDENTIFIER ::= { mip6Cn 2 }

   mip6HaAdvertisement     OBJECT IDENTIFIER ::= { mip6Ha 1 }
   mip6HaStats             OBJECT IDENTIFIER ::= { mip6Ha 2 }



  -- Textual Conventions
   Mip6BURequestRejectionCode ::= TEXTUAL-CONVENTION
          STATUS        current
          DESCRIPTION
                  "The value of the status field in the Binding
                   Acknowledgment message when the Binding Update
                   was rejected.
                  "
          REFERENCE
                  "RFC 3775 : Section 6.1.8"
          SYNTAX  INTEGER {
                  reasonUnspecified               (1),  --(Code 128)
                  admProhibited                   (2),  --(Code 129)
                  insufficientResource            (3),  --(Code 130)
                  homeRegistrationNotSupported    (4),  --(Code 131)
                  notHomeSubnet                   (5),  --(Code 132)
                  notHomeAgentForThisMobileNode   (6),  --(Code 133)
                  duplicateAddressDetectionFailed (7),  --(Code 134)
                  sequenceNumberOutOfWindow       (8),  --(Code 135)
                  expiredHomeNonceIndex           (9),  --(Code 136)
                  expiredCareofNonceIndex         (10), --(Code 137)
                  expiredNonces                   (11), --(Code 138)
                  registrationTypeChangeDisallowed(12)  --(Code 139)
                 }
```

```
    mip6Capabilities OBJECT-TYPE
        SYNTAX      BITS {
                         mobileNode         (0),
                         homeAgent          (1),
                         correspondentNode  (2)
                    }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "This object indicates the Mobile IPv6 functions that
                 are supported by this managed entity.  Multiple
                 Mobile IPv6 functions may be supported by a single
                 entity.
                "
        REFERENCE
                "RFC 3775 : Section 3.2, 4.1"
        ::= { mip6System 1 }

    mip6Status OBJECT-TYPE
        SYNTAX      INTEGER { enabled(1), disabled(2) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
                "This object indicates whether the Mobile IPv6
                 function is enabled for the managed entity.  If it
                 is enabled, the agent discovery and registration
                 functions will be operational.
                 Changing the status from enabled(1) to disabled(2)
                 will terminate the agent discovery and registration
                 functions.  On the other hand, changing the status
                 from disabled(2) to enabled(1) will start the agent
                 discovery and registration functions.

                 The value of this object SHOULD remain unchanged
                 across reboots of the managed entity.
                "
        ::= { mip6System 2 }


    -- mip6BindingCache
```

```
   mip6BindingCacheTable OBJECT-TYPE
      SYNTAX      SEQUENCE OF Mip6BindingCacheEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
              "This table models the Binding Cache on the
               managed entity.  The cache is maintained by home
               agents and correspondent nodes.  It contains
               both correspondent registration entries and home
               registration entries.

               Entries in this table are not required to survive
               a reboot of the managed entity.
              "
      REFERENCE
              "RFC 3775 : Section 4.5, 9.1, 10.1"
      ::= { mip6Bindings 1 }

   mip6BindingCacheEntry OBJECT-TYPE
      SYNTAX      Mip6BindingCacheEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
              "This entry represents a conceptual row in the
               binding cache table.  It represents a single Binding
               Update.

               Implementors need to be aware that if the total
               number of octets in mip6BindingHomeAddress
               exceeds 113, then OIDs of column
               instances in this row will have more than 128
               sub-identifiers and cannot be accessed using
               SNMPv1, SNMPv2c, or SNMPv3.
              "
      INDEX  { mip6BindingHomeAddressType, mip6BindingHomeAddress }
      ::= { mip6BindingCacheTable 1 }
```

```
 Mip6BindingCacheEntry ::=
    SEQUENCE {
     mip6BindingHomeAddressType   InetAddressType,
     mip6BindingHomeAddress       InetAddress,
     mip6BindingCOAType           InetAddressType,
     mip6BindingCOA               InetAddress,
     mip6BindingTimeRegistered    DateAndTime,
     mip6BindingTimeGranted       Gauge32,
     mip6BindingTimeRemaining     Gauge32,
     mip6BindingHomeRegn          TruthValue,
     mip6BindingMaxSeq            Unsigned32,
     mip6BindingUsageTS           DateAndTime,
     mip6BindingUsageCount        Gauge32,
     mip6BindingAdminStatus       INTEGER
    }

mip6BindingHomeAddressType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The InetAddressType of the mip6BindingHomeAddress
             that follows.
            "
    ::= { mip6BindingCacheEntry 1 }

mip6BindingHomeAddress OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The home address of the mobile node corresponding
             to the Binding Cache entry.  This field is used as
             the key for searching the mobile node's current
             care-of address in the Binding Cache.

             The type of the address represented by this object
             is specified by the corresponding
             mip6BindingHomeAddressType object.
            "
    REFERENCE
            "RFC 3775 : Section 9.1"
    ::= { mip6BindingCacheEntry 2 }
```

```
    mip6BindingCOAType   OBJECT-TYPE
        SYNTAX      InetAddressType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The InetAddressType of the mip6BindingCOA that
                 follows.
                "
        ::= { mip6BindingCacheEntry 3 }

    mip6BindingCOA   OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The care-of address of the mobile node indicated by
                 the home address field (mip6BindingHomeAddress) in
                 this Binding Cache entry.

                 The type of the address represented by this object
                 is specified by the corresponding mip6BindingCOAType
                 object.
                "
        REFERENCE
                "RFC 3775 : Section 9.1"
        ::= { mip6BindingCacheEntry 4 }

     mip6BindingTimeRegistered OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The timestamp when this Binding Cache entry was
                 created.
                "
        ::= { mip6BindingCacheEntry 5 }

     mip6BindingTimeGranted OBJECT-TYPE
        SYNTAX      Gauge32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The lifetime in seconds granted to the mobile node
                 for this registration.
                "
        ::= { mip6BindingCacheEntry 6 }
```

```
       mip6BindingTimeRemaining OBJECT-TYPE
           SYNTAX      Gauge32
           UNITS       "seconds"
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The lifetime in seconds remaining for this
                    registration.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1"
           ::= { mip6BindingCacheEntry 7 }

        mip6BindingHomeRegn OBJECT-TYPE
           SYNTAX      TruthValue
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "This object indicates whether or not this Binding
                    Cache entry is a home registration entry (applicable
                    only on nodes that support home agent
                    functionality).
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1"
           ::= { mip6BindingCacheEntry 8 }

        mip6BindingMaxSeq OBJECT-TYPE
           SYNTAX      Unsigned32 (0..65536)
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The maximum value of the Sequence Number field
                    received in previous Binding Updates for this home
                    address (mip6BindingHomeAddress).
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1, 9.5.1"
           ::= { mip6BindingCacheEntry 9 }
```

```
        mip6BindingUsageTS OBJECT-TYPE
           SYNTAX      DateAndTime
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The timestamp when this entry was last looked up.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1"
           ::= { mip6BindingCacheEntry 10 }

        mip6BindingUsageCount OBJECT-TYPE
           SYNTAX      Gauge32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of times this entry was looked up.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1"
           ::= { mip6BindingCacheEntry 11 }

        mip6BindingAdminStatus OBJECT-TYPE
           SYNTAX      INTEGER {
                           active     (1),
                           inactive   (2)
                       }
           MAX-ACCESS  read-write
           STATUS      current
           DESCRIPTION
                   "This is an administrative object used to control
                    the status of a binding cache entry.  By default
                    the value will be 'active'(1).
                    A value of 'inactive'(2) will indicate that the
                    validity of the entry is suspended.  It does not
                    exist in the binding cache for all practical
                    purposes.
                    The state can be changed from 'active' to
                    'inactive' by operator intervention.
                    Causing the state to change to 'inactive' results
                    in the entry being deleted from the cache.
                    Attempts to change the status from 'inactive'
                    to 'active' will be rejected.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.1"
           ::= { mip6BindingCacheEntry 12 }
```

```
       -- mip6BindingHistory
       -- Once the lifetime expires an entry will be removed from the
       -- Binding Cache.
       -- For monitoring purposes it will be useful to have access to
       -- the history of the Binding Cache.  BindingHistoryTable serves
       -- this purpose.  It records the history of the Bindings.
       -- The size of the table will be left to implementors.

        mip6BindingHistoryTable OBJECT-TYPE
           SYNTAX      SEQUENCE OF Mip6BindingHistoryEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "A table containing a record of the bindings.
                   "
           ::= { mip6Bindings 2 }

        mip6BindingHistoryEntry OBJECT-TYPE
           SYNTAX      Mip6BindingHistoryEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The record of a binding.

                    Implementors need to be aware that if the total
                    number of octets in mip6BindingHstHomeAddress
                    exceeds 112, then OIDs of column
                    instances in this row will have more than 128
                    sub-identifiers and cannot be accessed using
                    SNMPv1, SNMPv2c, or SNMPv3.
                   "
           INDEX   { mip6BindingHstHomeAddressType,
                     mip6BindingHstHomeAddress ,
                     mip6BindingHstIndex}
           ::= { mip6BindingHistoryTable 1 }
```

```
 Mip6BindingHistoryEntry ::=
    SEQUENCE {
     mip6BindingHstHomeAddressType   InetAddressType,
     mip6BindingHstHomeAddress       InetAddress,
     mip6BindingHstIndex             Unsigned32,
     mip6BindingHstCOAType           InetAddressType,
     mip6BindingHstCOA               InetAddress,
     mip6BindingHstTimeRegistered    DateAndTime,
     mip6BindingHstTimeExpired       DateAndTime,
     mip6BindingHstHomeRegn          TruthValue,
     mip6BindingHstUsageTS           DateAndTime,
     mip6BindingHstUsageCount        Gauge32
    }

mip6BindingHstHomeAddressType OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The InetAddressType of the
             mip6BindingHstHomeAddress that follows.
            "
    ::= { mip6BindingHistoryEntry 1 }

mip6BindingHstHomeAddress OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "Mobile node's home address.

             The type of the address represented by this object
             is specified by the corresponding
             mip6BindingHstHomeAddressType object.
            "
    ::= { mip6BindingHistoryEntry 2 }

mip6BindingHstIndex OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
            "The index to uniquely identify this record along
             with the mobile node's HomeAddress type and
             HomeAddress.  It should be monotonically increasing.
             It may wrap after reaching its max value."
    ::= { mip6BindingHistoryEntry 3 }
```

```
    mip6BindingHstCOAType   OBJECT-TYPE
        SYNTAX      InetAddressType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The InetAddressType of the mip6BindingHstCOA that
                 follows.
                "
        ::= { mip6BindingHistoryEntry 4 }

    mip6BindingHstCOA   OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Mobile node's care-of address.  One mobile node can
                 have multiple bindings with different
                 care-of addresses.
                 The type of the address represented by this object
                 is specified by the corresponding
                 mip6BindingHstCOAType object.
                "
        ::= { mip6BindingHistoryEntry 5 }

     mip6BindingHstTimeRegistered OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The timestamp when this Binding Cache entry was
                 created.
                "
        ::= { mip6BindingHistoryEntry 6 }

     mip6BindingHstTimeExpired OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The timestamp when this Binding Cache entry expired.
                "
        ::= { mip6BindingHistoryEntry 7 }
```

```
        mip6BindingHstHomeRegn OBJECT-TYPE
           SYNTAX      TruthValue
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "This object indicates whether or not this Binding
                    Cache entry is a home registration entry (applicable
                    only on nodes that support home agent
                    functionality).
                   "
           ::= { mip6BindingHistoryEntry 8 }

        mip6BindingHstUsageTS OBJECT-TYPE
           SYNTAX      DateAndTime
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The timestamp when this entry was last looked up.
                   "
           ::= { mip6BindingHistoryEntry 9 }

        mip6BindingHstUsageCount OBJECT-TYPE
           SYNTAX      Gauge32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of times this entry was looked up.
                   "
           ::= { mip6BindingHistoryEntry 10 }

       -- mip6TrafficCounters

       -- MIPv6 Traffic will be characterized by
       -- IPv6 datagrams which satisfy at least one of the following
       -- conditions
       --   - the datagrams are tunneled to the mobile node by the HA
       --   - the datagrams are reverse tunneled by the MN to the HA
       --   - the datagrams have the Routing header type 2 set.
       --   - the datagrams have the Home Address option set in the
       --     Destination Option extension header
       --   - the datagrams have the mobility header

        mip6TotalTraffic OBJECT IDENTIFIER ::= { mip6Stats 1 }
       --  REFERENCE
       --             "RFC 3775 : Section 4.1, 6.3, 6.4"
```

```
        mip6InOctets  OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The total number of octets in the MIPv6 datagrams
                   received by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header, the Home Address
                   option in the Destination Option extension header
                   (Next Header value = 60), or the type 2 Routing
                   Header.  It will also include the IPv6 datagrams that
                   are reverse tunneled to a home agent from a mobile
                   node's home address.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6CounterDiscontinuityTime.
                  "
           REFERENCE
                     "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 1 }

        mip6HCInOctets  OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The total number of octets in the MIPv6 datagrams
                   received by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header, the Home Address
                   option in the Destination Option extension header
                   (Next Header value = 60), or the type 2 Routing
                   Header.  It will also include the IPv6 datagrams that
                   are reverse tunneled to a home agent from a mobile
                   node's home address.
                   This object is a 64-bit version of mip6InOctets.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6CounterDiscontinuityTime.
                  "
           REFERENCE
                     "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 2 }
```

```
        mip6InPkts    OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams received by the MIPv6
                    entity.  This will include datagrams with the
                    Mobility Header, the Home Address option in the
                    Destination Option extension header (Next Header
                    value = 60), or the type 2 Routing Header.
                    It will also include the IPv6 datagrams that are
                    reverse tunneled to a home agent from a mobile
                    node's home address.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 3 }

        mip6HCInPkts    OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams received by the MIPv6
                    entity.  This will include datagrams with the
                    Mobility Header, the Home Address option in the
                    Destination Option extension header (Next Header
                    value = 60), or the type 2 Routing Header.  It will
                    also include the IPv6 datagrams that are reverse
                    tunneled to a home agent from a mobile node's home
                    address.
                    This object is a 64-bit version of mip6InPkts.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 4 }
```

```
        mip6OutOctets  OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The total number of octets in the MIPv6 datagrams
                   sent by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header, the Home Address
                   option in the Destination Option extension header
                   (Next Header value = 60), or the type 2 Routing
                   Header.  It will also include the IPv6 datagrams that
                   are reverse tunneled to a home agent from a mobile
                   node's home address.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6CounterDiscontinuityTime.
                  "
           REFERENCE
                     "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 5 }

        mip6HCOutOctets  OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The total number of octets in the MIPv6 datagrams
                   sent by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header, the Home Address
                   option in the Destination Option extension header
                   (Next Header value = 60), or the type 2 Routing
                   Header.  It will also include the IPv6 datagrams that
                   are reverse tunneled to a home agent from a mobile
                   node's home address.
                   This object is a 64-bit version of mip6OutOctets.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6CounterDiscontinuityTime.
                  "
           REFERENCE
                     "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 6 }
```

```
        mip6OutPkts    OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams sent by the MIPv6
                    entity.  This will include the datagrams with
                    Mobility Header, the Home Address option in the
                    Destination Option extension header (Next Header
                    value = 60), or the type 2 Routing Header.  It will
                    also include the IPv6 datagrams that are reverse
                    tunneled to a home agent from a mobile node's home
                    address.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 7 }

        mip6HCOutPkts    OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams sent by the MIPv6
                    entity.  This will include datagrams with the
                    Mobility Header, the Home Address option in the
                    Destination Option extension header (Next Header
                    value = 60), or the type 2 Routing Header.  It will
                    also include the IPv6 datagrams that are reverse
                    tunneled to a home agent from a mobile node's home
                    address.
                    This object is a 64-bit version of mip6OutPkts.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6TotalTraffic 8 }
```

```
        mip6CounterDiscontinuityTime OBJECT-TYPE
           SYNTAX      TimeStamp
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The value of sysUpTime on the most recent occasion
                    at which any one or more of this MIPv6 entities
                    global counters, viz., counters with OID prefix
                    'mip6TotalTraffic' or 'mip6CnGlobalStats' or
                    'mip6HaGlobalStats' suffered a discontinuity.
                    If no such discontinuities have occurred since the
                    last re-initialization of the local management
                    subsystem, then this object will have a zero value.
                   "
           ::= { mip6TotalTraffic 9 }


       -- mip6NodeTrafficCounters

        mip6NodeTrafficTable OBJECT-TYPE
           SYNTAX      SEQUENCE OF Mip6NodeTrafficEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "A table containing MIPv6 traffic counters per mobile
                    node.
                   "
           ::= { mip6Stats 2 }

        mip6NodeTrafficEntry OBJECT-TYPE
           SYNTAX      Mip6NodeTrafficEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The MIPv6 traffic statistics for a mobile node.

                    Implementors need to be aware that if the total
                    number of octets in mip6BindingHomeAddress
                    exceeds 113, then OIDs of column
                    instances in this row will have more than 128
                    sub-identifiers and cannot be accessed using
                    SNMPv1, SNMPv2c, or SNMPv3.
                   "
           INDEX  { mip6BindingHomeAddressType, mip6BindingHomeAddress }
           ::= { mip6NodeTrafficTable 1 }
```

```
        Mip6NodeTrafficEntry ::=
           SEQUENCE {
                 mip6NodeInOctets             Counter32,
                 mip6HCNodeInOctets           Counter64,
                 mip6NodeInPkts               Counter32,
                 mip6HCNodeInPkts             Counter64,
                 mip6NodeOutOctets            Counter32,
                 mip6HCNodeOutOctets          Counter64,
                 mip6NodeOutPkts              Counter32,
                 mip6HCNodeOutPkts            Counter64,
                 mip6NodeCtrDiscontinuityTime TimeStamp
           }

        mip6NodeInOctets  OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The total number of octets in the MIPv6 datagrams
                    received from the mobile node by the MIPv6 entity.
                    This will include datagrams with the Mobility
                    Header or the Home Address option in the Destination
                    Option extension header (Next Header value = 60).
                    It will also include the IPv6 datagrams that are
                    reverse tunneled to a home agent from the mobile
                    node's home address.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6NodeCtrDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 1 }
```

```
        mip6HCNodeInOctets  OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The total number of octets in the MIPv6 datagrams
                    received from the mobile node by the MIPv6 entity.
                    This will include datagrams with the Mobility
                    Header or the Home Address option in the Destination
                    Option extension header (Next Header value = 60).
                    It will also include the IPv6 datagrams that are
                    reverse tunneled to a home agent from the mobile
                    node's home address.
                    This object is a 64-bit version of mip6NodeInOctets.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6NodeCtrDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 2 }

        mip6NodeInPkts    OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams received from the
                    mobile node by the MIPv6 entity.  This will include
                    the datagrams with the Mobility Header or
                    the Home Address option in the Destination
                    Option extension header (Next Header value = 60).
                    It will also include the IPv6 datagrams that are
                    reverse tunneled to a home agent from the mobile
                    node's home address.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6NodeCtrDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 3 }
```

```
        mip6HCNodeInPkts    OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The number of MIPv6 datagrams received from the
                    mobile node by the MIPv6 entity.  This will include
                    datagrams with the Mobility Header or the Home
                    Address option in the Destination Option extension
                    header (Next Header value = 60).  It will also
                    include the IPv6 datagrams that are reverse tunneled
                    to a home agent from the mobile node's home address.
                    This object is a 64-bit version of mip6NodeInPkts.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6NodeCtrDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 4 }

        mip6NodeOutOctets  OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The total number of octets in the MIPv6 datagrams
                    sent to the mobile node by the MIPv6 entity.  This
                    will include datagrams with the Mobility Header
                    or the type 2 Routing Header.  It will also include
                    the IPv6 datagrams that are tunneled by a home agent
                    to the mobile node.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6NodeCtrDiscontinuityTime.
                   "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 5 }
```

```
        mip6HCNodeOutOctets  OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The total number of octets in the MIPv6 datagrams
                   sent to the mobile node by the MIPv6 entity.  This
                   will include datagrams with the Mobility Header
                   or the type 2 Routing Header.  It will also include
                   the IPv6 datagrams that are tunneled by a home agent
                   to the mobile node.
                   This object is a 64-bit version of mip6NodeOutOctets.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6NodeCtrDiscontinuityTime.
                  "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 6 }

        mip6NodeOutPkts    OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The number of MIPv6 datagrams sent to the mobile
                   node by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header or the type 2
                   Routing Header.  It will also include the IPv6
                   datagrams that are tunneled by a home agent to the
                   mobile node.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6NodeCtrDiscontinuityTime.
                  "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 7 }
```

```
        mip6HCNodeOutPkts    OBJECT-TYPE
           SYNTAX      Counter64
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "The number of MIPv6 datagrams sent to the mobile
                   node by the MIPv6 entity.  This will include
                   datagrams with the Mobility Header or the type 2
                   Routing Header.  It will also include the IPv6
                   datagrams that are tunneled by a home agent to the
                   mobile node.
                   This object is a 64-bit version of mip6NodeOutOctets.
                   Discontinuities in the value of this counter can
                   occur at re-initialization of the management system,
                   and at other times as indicated by the value of
                   mip6NodeCtrDiscontinuityTime.
                  "
           REFERENCE
                      "RFC 3775 : Section 6.1, 6.3, 6.4, 10.4.5"
           ::= { mip6NodeTrafficEntry 8 }

        mip6NodeCtrDiscontinuityTime OBJECT-TYPE
           SYNTAX      TimeStamp
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The value of sysUpTime on the most recent occasion
                    at which any one or more of the counters in this row
                    suffered a discontinuity.  The relevant counters are
                    the specific instances of any Counter32 or Counter64
                    objects in this row.
                    If no such discontinuities have occurred since the
                    last re-initialization of the local management
                    subsystem, then this object contains a zero value.
                   "
           ::= { mip6NodeTrafficEntry 9 }

       -- mip6MnSystem Group

       mip6MnHomeAddressTable OBJECT-TYPE
           SYNTAX      SEQUENCE OF Mip6MnHomeAddressEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "A table containing registration status for all the
                    home addresses pertaining to the mobile node.
                   "
           ::= { mip6MnSystem 1 }
```

```
        mip6MnHomeAddressEntry OBJECT-TYPE
           SYNTAX      Mip6MnHomeAddressEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The registration status for a home address.

                    Implementors need to be aware that if the total
                    number of octets in mip6MnHomeAddress
                    exceeds 113, then OIDs of column instances in
                    this row will have more than 128 sub-identifiers and
                    cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
                   "
           INDEX   { mip6MnHomeAddressType, mip6MnHomeAddress }
           ::= { mip6MnHomeAddressTable 1 }

        Mip6MnHomeAddressEntry ::=
           SEQUENCE {
                 mip6MnHomeAddressType            InetAddressType,
                 mip6MnHomeAddress                InetAddress,
                 mip6MnHomeAddressState           INTEGER
           }

       mip6MnHomeAddressType OBJECT-TYPE
           SYNTAX      InetAddressType
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The InetAddressType of the mip6MnHomeAddress that
                    follows.
                   "
           ::= { mip6MnHomeAddressEntry 1 }
```

```
    mip6MnHomeAddress OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "A unicast routable address assigned to the mobile
                node.  This is used as the 'permanent address' of the
                mobile node in the sense that it remains unchanged
                regardless of the mobile node's current point of
                attachment.  If mobile node doesn't have a home
                address assigned yet, then this object will take the
                default 'unspecified' value ::0.

                The type of the address represented by this object
                is specified by the corresponding
                mip6MnHomeAddressType object.
               "
        REFERENCE
                "RFC 3775 : Section 3.2"
        ::= { mip6MnHomeAddressEntry 2 }

    mip6MnHomeAddressState OBJECT-TYPE
        SYNTAX      INTEGER {
                              unknown(1),
                              home(2),
                              registered(3),
                              pending(4),
                              isolated(5)
                    }
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "This object indicates the state of the mobile node:
                 unknown     -- The state of the mobile node
                                cannot be determined.
                 home        -- mobile node is on the home network.
                 registered  -- mobile node is on a foreign network
                                and is registered with the home
                                agent.
                 pending     -- mobile node has sent registration
                                request to the home agent and is
                                waiting for the reply.
                 isolated    -- mobile node is isolated from network,
                                i.e., it is not in its home network,
                                it is not registered, and no
                                registration ack is pending.
                "
        ::= { mip6MnHomeAddressEntry 3 }
```

```
-- Mobile Node Discovery and Advertisement Group Counters

mip6MnDiscoveryRequests OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "Total number of ICMP Dynamic Home Agent Address
             Discovery Requests sent by the mobile node.
             Discontinuities in the value of this counter can
             occur at re-initialization of the management system,
             and at other times as indicated by the value of
             mip6CounterDiscontinuityTime.
            "
    REFERENCE
            "RFC 3775 : Section 10.5, 11.4.1"
       ::= { mip6MnConf 1 }

mip6MnDiscoveryReplies OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "Total number of ICMP Dynamic Home Agent Address
             Discovery Replies received by the mobile node.
             Discontinuities in the value of this counter can
             occur at re-initialization of the management system,
             and at other times as indicated by the value of
             mip6CounterDiscontinuityTime.
            "
    REFERENCE
            "RFC 3775 : Section 10.5, 11.4.1"
       ::= { mip6MnConf 2 }
```

```
    mip6MnDiscoveryTimeouts OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of ICMP Dynamic Home Agent Address
                 Discovery Requests that timed out.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 10.5, 11.4.1, 12"
           ::= { mip6MnConf 3 }

    mip6MnPrefixSolicitationsSent OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of ICMP Mobile Prefix Solicitations
                 sent by the mobile node.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 10.5, 11.4.2"
           ::= { mip6MnConf 4 }
```

```
    mip6MnPrefixAdvsRecd OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of ICMP Mobile Prefix Advertisements
                 received by the mobile node.  This will include the
                 ICMP Mobile Prefix Advertisements that failed the
                 validity checks.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 10.6, 11.4.3"
        ::= { mip6MnConf 5 }

    mip6MnPrefixAdvsIgnored OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Mobile Prefix Advertisements
                 discarded by the validity check.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 10.6, 11.4.3"
        ::= { mip6MnConf 6 }
```

```
    mip6MnMovedToFN OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Number of times the mobile node has detected
                 movement to a foreign network from another
                 foreign network or from the home network, has
                 reconstructed its care-of address and has initiated
                 the care-of address registration process.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.5.1"
        ::= { mip6MnConf 7 }

    mip6MnMovedToHN OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Number of times the mobile node has detected
                 movement from a foreign network to its home
                 network.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.5.4"
        ::= { mip6MnConf 8 }

    -- Mobile Node Registration Group

    -- Registration table of mobile node
```

```
    mip6MnBLTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Mip6MnBLEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "This table corresponds to the Binding Update List
                (BL) that is maintained by the mobile node.  The list
                holds an item for every binding that the mobile node
                has established or is trying to establish.  Both
                correspondent and home registrations are included in
                this table.  Entries from the table are deleted as
                the lifetime of the binding expires.
               "
        REFERENCE
                "RFC 3775 : Section 4.5, 11.1"
        ::= { mip6MnRegistration 1 }

    mip6MnBLEntry OBJECT-TYPE
        SYNTAX      Mip6MnBLEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "Information about a Binding Update sent by the
                 mobile node either to its home agent or to one of
                 its correspondent nodes.

                 Implementors need to be aware that if the total
                 number of octets in mip6MnHomeAddress and
                 mip6MnBLNodeAddress exceeds 111, then OIDs of column
                 instances in this row will have more than 128
                 sub-identifiers and cannot be accessed using
                 SNMPv1, SNMPv2c, or SNMPv3.
                "
        INDEX { mip6MnHomeAddressType,
                mip6MnHomeAddress,
                mip6MnBLNodeAddressType,
                mip6MnBLNodeAddress
              }
        ::= { mip6MnBLTable 1 }
```

```
    Mip6MnBLEntry ::= SEQUENCE {
        mip6MnBLNodeAddressType   InetAddressType,
        mip6MnBLNodeAddress       InetAddress,
        mip6MnBLCOAType           InetAddressType,
        mip6MnBLCOA               InetAddress,
        mip6MnBLLifeTimeRequested Unsigned32,
        mip6MnBLLifeTimeGranted   Unsigned32,
        mip6MnBLMaxSeq            Unsigned32,
        mip6MnBLTimeSent          DateAndTime,
        mip6MnBLAccepted          TruthValue,
        mip6MnBLAcceptedTime      DateAndTime,
        mip6MnBLRetransmissions   Gauge32,
        mip6MnBLDontSendBUFlag    TruthValue
        }

    mip6MnBLNodeAddressType OBJECT-TYPE
        SYNTAX      InetAddressType
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                 "The InetAddressType of the mip6MnBLNodeAddress
                  that follows.
                 "
        ::= { mip6MnBLEntry 1 }

    mip6MnBLNodeAddress OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "The address of the agent as used in the destination
                 address of the Binding Update.  The agent
                 may be a home agent or a correspondent node.

                 The type of the address represented by this object
                 is specified by the corresponding
                 mip6MnBLNodeAddressType object.

                 "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 2 }
```

```
    mip6MnBLCOAType OBJECT-TYPE
        SYNTAX      InetAddressType
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The InetAddressType of the mip6MnBLCOA that follows.
                "
        ::= { mip6MnBLEntry 3 }

    mip6MnBLCOA OBJECT-TYPE
        SYNTAX      InetAddress
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Care-of address that the mobile node intends to
                 register in the Binding Update request.

                 The type of the address represented by this object
                 is specified by the corresponding mip6MnBLCOAType
                 object.
                "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 4 }

    mip6MnBLLifeTimeRequested OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The lifetime requested by the mobile node (in
                 seconds) in the Binding Update.
                "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 5 }
```

```
    mip6MnBLLifeTimeGranted OBJECT-TYPE
        SYNTAX      Unsigned32
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The lifetime granted to the mobile node for this
                 binding.  This field will be inaccessible if the
                 Binding Update request has not been accepted.
                 The lifetime remaining (lR) can be calculated using
                 the current time (cT), mip6MnBLAcceptedTime (aT) and
                 mip6MnBLLifeTimeGranted (lG) as follows:
                         lR  = lG - (cT - aT).
                 When lR is zero, this entry will be deleted from the
                 Binding Update List and consequently from this
                 table.
                "
        ::= { mip6MnBLEntry 6 }

    mip6MnBLMaxSeq OBJECT-TYPE
        SYNTAX      Unsigned32 (0..65536)
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The maximum value of the Sequence Number field sent
                 in previous Binding Updates to this destination.
                "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 7 }

    mip6MnBLTimeSent OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time when the last (re-)transmission occurred."
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 8 }
```

```
    mip6MnBLAccepted OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "true(1) if the mobile node has received a
                 binding acknowledgment indicating that service has
                 been accepted (status code 0 or 1); false(2)
                 otherwise.  false(2) implies that the registration
                 is still pending.
                "
        ::= { mip6MnBLEntry 9 }

    mip6MnBLAcceptedTime OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time at which the mobile node receives a binding
                 acknowledgment indicating that Binding Update has
                 been accepted (status code 0 or 1);
                 This object will be inaccessible if the Binding
                 Update request is still pending.
                "
        ::= { mip6MnBLEntry 10 }


    mip6MnBLRetransmissions  OBJECT-TYPE
        SYNTAX      Gauge32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The number of Binding Update retransmissions.
                "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 11 }
```

```
    mip6MnBLDontSendBUFlag OBJECT-TYPE
        SYNTAX      TruthValue
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "true(1) indicates that future binding updates
                 will not be sent to mip6MnBLNodeAddress.
                 false(2) implies that binding updates will be
                 sent to mip6MnBLNodeAddress.
                 The mobile node sets this flag in the when it
                 receives an ICMP Parameter Problem, Code 1,
                 error message in response to a return
                 routability message or Binding Update sent to
                 mip6MnBLNodeAddress.
                "
        REFERENCE
                "RFC 3775 : Section 11.1"
        ::= { mip6MnBLEntry 12 }


    -- Mobile Node Registration Group Counters

    mip6MnRegnCounters OBJECT IDENTIFIER ::= { mip6MnRegistration 2 }

    mip6MnMobilityMessagesSent OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of mobility messages, i.e., IPv6
                 datagrams with Mobility Header, sent by the mobile
                 node.  There are 3 types of mobility messages, viz.,
                 Home Test Init, Care-of Test Init, and Binding
                 Updates, that are sent by mobile nodes.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 4.2, 6.1"
        ::= {  mip6MnRegnCounters 1 }
```

```
    mip6MnMobilityMessagesRecd OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of mobility messages, i.e., IPv6
                 datagrams with Mobility Header, received by the
                 mobile node.  There are 5 types of mobility
                 messages, viz., Home Test, Care-of Test, Binding
                 Acknowledgment, Binding Refresh Request, and Binding
                 Error, that are sent to mobile nodes.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 4.2, 6.1"
        ::= {  mip6MnRegnCounters 2 }

    mip6MnBUsToHA  OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates sent to the mobile
                 node's home agent(s).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.7.1"
        ::= {  mip6MnRegnCounters 3 }
```

```
    mip6MnBUAcksFromHA  OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of valid binding acknowledgments
                 received from the mobile node's home agent(s).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.7.3"
        ::= {  mip6MnRegnCounters 4 }

    mip6MnBUsToCN OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates sent to
                 correspondent nodes by the mobile node.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.7.2"
        ::= {  mip6MnRegnCounters 5 }

    mip6MnBUAcksFromCN OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of valid Binding Update acks
                 received from all the correspondent nodes.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.7.3"
        ::= {  mip6MnRegnCounters 6 }
```

```
    mip6MnBindingErrorsFromCN OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Error messages received
                 by mobile node from CN.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        ::= {  mip6MnRegnCounters 7 }

    mip6MnICMPErrorsRecd OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of ICMP Error messages of type ICMP
                 Parameter Problem, Code 1 or Code 2, received by
                 the mobile node from a correspondent node in
                 response to a return routability procedure, a
                 Binding Update, or a packet with the Home Address
                 option.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.3.5"
        ::= {  mip6MnRegnCounters 8 }
```

```
    mip6MnBRRequestsRecd OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Refresh requests
                 received by the mobile node from correspondent
                 nodes.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 11.7.4"
        ::= {  mip6MnRegnCounters 9 }

    -- Registration Group counters used for Correspondent Node
    mip6CnGlobalStats OBJECT IDENTIFIER ::= { mip6CnStats 1 }


    mip6CnHomeTestInitsRecd     OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Home Test Init messages received.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.4.1"
        ::= { mip6CnGlobalStats 1 }
```

```
    mip6CnHomeTestsSent      OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Home Test messages sent.  If a Home
                 Test Init message is found to be valid, a Home Test
                 message will be generated and sent.  Otherwise the
                 Home Test message is silently discarded.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.4.3"
        ::= { mip6CnGlobalStats 2 }

    mip6CnCareOfTestInitsRecd     OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Care-of Test Init messages received.
                "
        REFERENCE
                "RFC 3775 : Section 9.4.2"
        ::= { mip6CnGlobalStats 3 }

    mip6CnCareOfTestsSent            OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Care-of Test messages sent.  If a
                 Care-of Test Init message is found to be valid, a
                 Care-of Test message will be generated and sent.
                 Otherwise the Care-of Test message is silently
                 discarded.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.4.4"
        ::= { mip6CnGlobalStats 4 }
```

```
    mip6CnBUsRecd     OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates received by the
                 correspondent node from mobile nodes.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.5.1"
        ::= { mip6CnGlobalStats 5 }

    mip6CnBUAcksSent    OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of acknowledgments sent by the
                 correspondent node for the Binding Updates received.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.5.4"
        ::= { mip6CnGlobalStats 6 }


    mip6CnBRsSent     OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Refresh Request messages
                 sent by the correspondent node.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.5.5"
        ::= { mip6CnGlobalStats 7 }
```

```
        mip6CnBindingErrors OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "Total number of Binding Error messages sent by the
                    correspondent node to the mobile node.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.3.3"
           ::= { mip6CnGlobalStats 8 }

       mip6CnBUsAccepted   OBJECT-TYPE
           SYNTAX      Counter32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "Total number of Binding Updates accepted by the
                    correspondent node.  If a Binding Acknowledgment
                    message is sent for the Binding Update request,
                    the Status code field in the message will have
                    a value less than 128.
                    Discontinuities in the value of this counter can
                    occur at re-initialization of the management system,
                    and at other times as indicated by the value of
                    mip6CounterDiscontinuityTime.
                   "
           REFERENCE
                   "RFC 3775 : Section 9.5.1, 9.5.4"
           ::= { mip6CnGlobalStats 9 }
```

```
    mip6CnBUsRejected   OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected
                 by the correspondent node.  If a Binding
                 Acknowledgment message has been sent for the Binding
                 Update request, the Status code field in the
                 message will have a value greater than or equal to
                 128.  Otherwise the Binding Update request will be
                 silently discarded.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 9.5.1, 9.5.4"
        ::= { mip6CnGlobalStats 10 }

    mip6CnReasonUnspecified OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the correspondent node with status code in the
                 Binding Acknowledgment message indicating 'reason
                 unspecified' (Code 128).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8"
        ::= { mip6CnGlobalStats 11 }
```

```
    mip6CnInsufficientResource OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the correspondent node with status code in the
                 Binding Acknowledgment message indicating
                 'insufficient resources' (Code 130).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8"
        ::= { mip6CnGlobalStats 12 }

    mip6CnHomeRegnNotSupported OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
               "Total number of Binding Update requests rejected by
                correspondent node with status code in the Binding
                Acknowledgment message indicating 'home registration
                not supported' (Code 131).
                Discontinuities in the value of this counter can
                occur at re-initialization of the management system,
                and at other times as indicated by the value of
                mip6CounterDiscontinuityTime.
               "
        REFERENCE
                "RFC 3775 : Section 10.3.1"
        ::= { mip6CnGlobalStats 13 }
```

```
    mip6CnSeqNumberOutOfWindow OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates rejected by
                 correspondent node with status code in the Binding
                 Acknowledgment message indicating 'sequence number
                 out of window' (Code 135).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8, 9.5.1"
        ::= { mip6CnGlobalStats 14 }

    mip6CnExpiredHomeNonceIndex OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Updates rejected by
                 correspondent node with status code in the Binding
                 Acknowledgment message indicating 'expired home
                 nonce index' (Code 136).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8, 9.5.1"
        ::= { mip6CnGlobalStats 15 }
```

```
    mip6CnExpiredCareOfNonceIndex OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Updates rejected by
                 correspondent node with status code in the Binding
                 Acknowledgment message indicating 'expired
                 care-of nonce index' (Code 137).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8, 9.5.1"
        ::= { mip6CnGlobalStats 16 }

    mip6CnExpiredNonce OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Updates rejected by
                 correspondent node with status code in the Binding
                 Acknowledgment message indicating 'expired nonces'
                 (Code 138), i.e., the correspondent node no longer
                 recognizes the Home Nonce Index value and the
                 Care-of Nonce Index value.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8, 9.5.1"
        ::= { mip6CnGlobalStats 17 }
```

```
    mip6CnRegTypeChangeDisallowed OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Updates rejected by
                 correspondent node with status code in the Binding
                 Acknowledgment message indicating 'registration
                 type change disallowed' (Code 139), i.e., a binding
                 already exists for the given home address and the
                 home registration flag has a different value than
                 the Home Registration (H) bit in the Binding Update.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 6.1.8, 9.5.1"
        ::= { mip6CnGlobalStats 18 }



    -- The Correspondent Node statistics by mobile node

    mip6CnCounterTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Mip6CnCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "A table containing each mobile ."
        ::= { mip6CnStats 2 }
```

```
    mip6CnCounterEntry OBJECT-TYPE
        SYNTAX      Mip6CnCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "The set of correspondent node counters for a mobile
                 node.

                 Implementors need to be aware that if the total
                 number of octets in mip6BindingHomeAddress
                 exceeds 113, then OIDs of column instances in
                 this row will have more than 128 sub-identifiers and
                 cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
                "
        INDEX   {    mip6BindingHomeAddressType,
                     mip6BindingHomeAddress
                }
        ::= { mip6CnCounterTable 1 }

    Mip6CnCounterEntry ::=
        SEQUENCE {
           mip6CnBURequestsAccepted       Counter32,
           mip6CnBURequestsRejected       Counter32,
           mip6CnBCEntryCreationTime      DateAndTime,
           mip6CnBUAcceptedTime           DateAndTime,
           mip6CnBURejectionTime          DateAndTime,
           mip6CnBURejectionCode          Mip6BURequestRejectionCode,
           mip6CnCtrDiscontinuityTime     TimeStamp
        }

    mip6CnBURequestsAccepted OBJECT-TYPE   --(Code 0,1)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests from the
                 mobile node accepted by the correspondent node.
                 If Binding Acknowledgment messages are sent, then
                 the status code in the message will have a value
                 less than 128.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CnCtrDiscontinuityTime.
                "
        ::= { mip6CnCounterEntry 1 }
```

```
    mip6CnBURequestsRejected     OBJECT-TYPE
                                      -- (Code 128 through Code 159)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
               "Total number of Binding Update requests from the
                mobile node that have been rejected by the
                correspondent node.  This includes the Binding Update
                requests for which a Binding Acknowledgment message
                has been sent with status code value greater than or
                equal to 128 and the Binding Acknowledgment requests
                that have been silently discarded.
                Discontinuities in the value of this counter can
                occur at re-initialization of the management system,
                and at other times as indicated by the value of
                mip6CnCtrDiscontinuityTime.
               "
        ::= { mip6CnCounterEntry 2 }

    mip6CnBCEntryCreationTime        OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time when the current Binding Cache entry was
                 created for the mobile node.
                "
        ::= { mip6CnCounterEntry 3 }

    mip6CnBUAcceptedTime OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time at which the last Binding Update was
                 accepted by the correspondent node and the
                 corresponding Binding Cache entry was updated.
                "
        ::= { mip6CnCounterEntry 4 }
```

```
    mip6CnBURejectionTime   OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time at which the last Binding Update message
                 was rejected by the correspondent node.
                 If there have been no rejections, then this object
                 will be inaccessible.
                "
        ::= { mip6CnCounterEntry 5 }

    mip6CnBURejectionCode  OBJECT-TYPE
           SYNTAX      Mip6BURequestRejectionCode
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                  "If a Binding Acknowledgment is sent to the mobile
                   node, this is the status code (> 128) that is
                   returned in the Binding Acknowledgment.
                   In case a Binding Acknowledgment is not sent to
                   the mobile node, then this will be the value
                   of the Status code that corresponds to the reason
                   of the rejection.  If there have been no
                   rejections, then this object will be inaccessible.
                  "
        REFERENCE
                "RFC 3775 : Section 6.1.8"

           ::= { mip6CnCounterEntry 6 }

     mip6CnCtrDiscontinuityTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
               "The value of sysUpTime on the most recent occasion
                at which any one or more of counters in this row,
                viz., instances of 'mip6CnBURequestsAccepted' and
                'mip6CnBURequestsRejected', suffered a discontinuity.
                If no such discontinuities have occurred since the
                last re-initialization of the local management
                subsystem, then this object will have a zero value.
               "
        ::= { mip6CnCounterEntry 7 }

    -- Home agent group
```

```
    mip6HaAdvsRecd OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of valid Router Advertisements
                 received with the Home Agent (H) bit set, on
                 all the links on which it is serving as a Home
                 Agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 7"
        ::= { mip6HaAdvertisement 1 }


    mip6HaAdvsSent OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of unsolicited multicast Router
                 Advertisements sent with the Home Agent (H) bit set,
                 on all the links on which the router is serving as
                 a Home Agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
        REFERENCE
                "RFC 3775 : Section 7"
        ::= { mip6HaAdvertisement 2 }


    mip6HaConfTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Mip6HaConfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "A table containing configurable advertisement
                parameters for all interfaces on which the
                home agent service is advertised.
                It is RECOMMENDED that the last written values
                of the objects in the conceptual rows of this
```

```
                table will remain unchanged across reboots of
                the managed entity provided that the interfaces
                have not been renumbered after the reboot.
               "
        ::= { mip6HaAdvertisement 3 }

    mip6HaConfEntry OBJECT-TYPE
        SYNTAX      Mip6HaConfEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "Advertisement parameters for an interface.
                The instances of the columnar objects in this entry
                pertain to the interface that is uniquely identified
                by the ipv6InterfaceIfIndex of the interface.  The
                same ipv6InterfaceIfIndex object is used to uniquely
                identify instances of the columnar objects of this
                conceptual row.
               "
        INDEX   { ipv6InterfaceIfIndex }
        ::= { mip6HaConfTable 1 }

    Mip6HaConfEntry    ::= SEQUENCE {
          mip6HaAdvPreference               Integer32,
          mip6HaAdvLifetime                 Integer32,
          mip6HaPrefixAdv                   INTEGER,
          mip6HaPrefixSolicitation          INTEGER,
          mip6HaMCastCtlMsgSupport          INTEGER
        }

    mip6HaAdvPreference OBJECT-TYPE
        SYNTAX      Integer32 (0..65536)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
               "The preference value for the home agent to
                be used in the Router Advertisements.  Higher
                value denotes greater preference.
               "
        REFERENCE
                "RFC 3775 : Section 7.4, 8.4"
        ::= { mip6HaConfEntry 1 }
```

```
    mip6HaAdvLifetime   OBJECT-TYPE
        SYNTAX      Integer32 (1..65535)
        UNITS       "seconds"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
               "The lifetime value for the home agent to be
                used in the Router Advertisements.
               "
        REFERENCE
                "RFC 3775 : Section 7.4"
        ::= { mip6HaConfEntry 2 }

    mip6HaPrefixAdv    OBJECT-TYPE
        SYNTAX      INTEGER { enabled(1), disabled(2) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
                "Indicates whether the home agent should support
                 sending of the ICMP Mobile Prefix Advertisements.
                 If it is disabled(2), the home agent will not
                 send ICMP Mobile Prefix Advertisements to the
                 mobile nodes.
                 The state can be changed from enabled(1) to
                 disabled(2) and vice versa by operator
                 intervention.
                 Causing the state to change from enabled(1) to
                 disabled(2) will result in the home agent
                 disabling the Prefix advertisement function.
                 On the other hand, changing the status from
                 disabled(2) to enabled(1) will start the prefix
                 advertisement function.
                "
        REFERENCE
                "RFC 3775 : Section 8.4"
        ::= { mip6HaConfEntry 3}
```

```
    mip6HaPrefixSolicitation   OBJECT-TYPE
        SYNTAX      INTEGER { enabled(1), disabled(2) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
                "Indicates whether the home agent should respond
                 to ICMP Mobile Prefix Solicitation messages it
                 receives from the mobile nodes.  By default, the
                 value will be set to enabled(1).  If it is
                 disabled(2), the home agent will not respond to
                 any ICMP Mobile Prefix Solicitation messages.
                 The state can be changed from enabled(1) to
                 disabled(2), by operator intervention.  Causing
                 the state to change from enabled(1) to
                 disabled(2) will result in the home agent not
                 responding to any ICMP Mobile Prefix
                 Solicitation messages it receives from the
                 mobile nodes.
                "
        REFERENCE
                "RFC 3775 : Section 8.4"
        ::= { mip6HaConfEntry 4}


    mip6HaMCastCtlMsgSupport OBJECT-TYPE
        SYNTAX      INTEGER { enabled(1), disabled(2) }
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
                "Indicates whether the home agent should enable
                 support for the processing of the multicast
                 group membership control messages it receives
                 from the mobile nodes.  By default, the value
                 will be set to enabled(1).  If it is
                 disabled(2), the home agent will not process
                 any multicast group control messages it receives
                 from the mobile nodes.
                 The state can be changed from enabled(1) to
                 disabled(2), by operator intervention.  Causing
                 the state to change from enabled(1) to
                 disabled(2) will result in the home agent
                 disabling the processing of the multicast group
                 control messages it received from the mobile
                 nodes.
                "
        REFERENCE
                "RFC 3775 : Section 10.4.3"
        ::= { mip6HaConfEntry 5}
```

```
-- Registration Group counters HA

mip6HaGlobalStats OBJECT IDENTIFIER ::= { mip6HaStats 1 }

mip6HaHomeTestInitsRecd     OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "Total number of Home Test Init messages received by
             the home agent.  This will include Home Test Init
             messages that failed the validity checks.
             Discontinuities in the value of this counter can
             occur at re-initialization of the management system,
             and at other times as indicated by the value of
             mip6CounterDiscontinuityTime.
            "
      REFERENCE
                "RFC 3775 : Section 5.2.5"
    ::= { mip6HaGlobalStats 1 }

mip6HaHomeTestsSent      OBJECT-TYPE
    SYNTAX      Counter32
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
            "Total number of Home Test messages sent by the
             home agent.
             Discontinuities in the value of this counter can
             occur at re-initialization of the management system,
             and at other times as indicated by the value of
             mip6CounterDiscontinuityTime.
            "
     REFERENCE
                "RFC 3775 : Section 5.2.5"
    ::= { mip6HaGlobalStats 2 }
```

```
    mip6HaBUsRecd     OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates received by the
                 home agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 3 }

    mip6HaBUAcksSent    OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Acknowledgments sent
                 by the home agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 4 }

    mip6HaBRAdviceSent OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Acknowledgments sent
                 by the home agent with Binding Refresh Advice
                 mobility option included.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 5 }
```

```
    mip6HaBUsAccepted   OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Updates accepted by this HA.
                 Binding Acknowledgment with status code of 0 or 1.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 6 }

    mip6HaPrefDiscoverReqd OBJECT-TYPE        -- (Code 1)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The total number of Binding Acknowledgments sent by
                 the home agent with status code indicating 'accepted
                 but prefix discovery necessary'  (Code 1).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 7 }
```

```
    mip6HaReasonUnspecified OBJECT-TYPE              -- (Code 128)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'reason
                 unspecified' (Code 128).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 8 }

    mip6HaAdmProhibited OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'administratively
                 prohibited' (Code 129).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 9 }
```

```
    mip6HaInsufficientResource OBJECT-TYPE            -- (Code 130)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'insufficient
                 resources' (Code 130).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 9.5.2"
        ::= { mip6HaGlobalStats 10 }

    mip6HaHomeRegnNotSupported OBJECT-TYPE    -- (Code 131)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'home
                 registration not supported' (Code 131).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 11 }
```

```
    mip6HaNotHomeSubnet OBJECT-TYPE                    -- (Code 132)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'not home subnet'
                 (Code 132).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 12 }

    mip6HaNotHomeAgentForThisMN OBJECT-TYPE            -- (Code 133)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'not home agent
                 for this mobile node' (Code 133).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.2"
        ::= { mip6HaGlobalStats 13 }
```

```
    mip6HaDupAddrDetectionFailed OBJECT-TYPE       -- (Code 134)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'Duplicate
                 Address Detection failed' (Code 134).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6HaGlobalStats 14 }

    mip6HaSeqNumberOutOfWindow OBJECT-TYPE            -- (Code 135)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'sequence number
                 out of window' (Code 135).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 9.5.1"
        ::= { mip6HaGlobalStats 15 }
```

```
    mip6HaExpiredHomeNonceIndex OBJECT-TYPE          -- (Code 136)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'expired home
                 nonce index' (Code 136).
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 9.5.1"
        ::= { mip6HaGlobalStats 16 }

    mip6HaRegTypeChangeDisallowed OBJECT-TYPE        -- (Code 139)
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of Binding Update requests rejected by
                 the home agent with status code in the Binding
                 Acknowledgment message indicating 'registration
                 type change disallowed' (Code 139), i.e., a binding
                 already exists for the given home address and the
                 home registration flag has a different value than
                 the Home Registration (H) bit in the Binding Update.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6CounterDiscontinuityTime.
                "
           REFERENCE
                   "RFC 3775 : Section 9.5.1"
        ::= { mip6HaGlobalStats 17 }

    -- Home agent registration Counters per node
```

```
    mip6HaCounterTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Mip6HaCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "A table containing registration statistics for all
                 mobile nodes registered with the home agent.
                "
        ::= { mip6HaStats 2 }

    mip6HaCounterEntry  OBJECT-TYPE
        SYNTAX      Mip6HaCounterEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "Home agent registration statistics for a mobile
                 node.

                 Implementors need to be aware that if the total
                 number of octets in mip6BindingHomeAddress
                 exceeds 113, then OIDs of column instances in
                 this row will have more than 128 sub-identifiers and
                 cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
                "
        INDEX   { mip6BindingHomeAddressType,
                  mip6BindingHomeAddress
                }
        ::= { mip6HaCounterTable 1 }

    Mip6HaCounterEntry      ::= SEQUENCE {
        mip6HaBURequestsAccepted       Counter32,
        mip6HaBURequestsDenied         Counter32,
        mip6HaBCEntryCreationTime      DateAndTime,
        mip6HaBUAcceptedTime           DateAndTime,
        mip6HaBURejectionTime          DateAndTime,
        mip6HaRecentBURejectionCode    Mip6BURequestRejectionCode,
        mip6HaCtrDiscontinuityTime     TimeStamp
        }
```

```
    mip6HaBURequestsAccepted OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of service requests for the mobile node
                 accepted by the home agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6HaCtrDiscontinuityTime.
                "
        ::= { mip6HaCounterEntry 1 }

    mip6HaBURequestsDenied   OBJECT-TYPE
        SYNTAX      Counter32
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "Total number of service requests for the mobile node
                 rejected by the home agent.
                 Discontinuities in the value of this counter can
                 occur at re-initialization of the management system,
                 and at other times as indicated by the value of
                 mip6HaCtrDiscontinuityTime.
                "
        ::= { mip6HaCounterEntry 2 }

    mip6HaBCEntryCreationTime   OBJECT-TYPE
        SYNTAX      DateAndTime
        UNITS       "seconds"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time when the current Binding Cache entry was
                 created for the mobile node.
                "
        ::= { mip6HaCounterEntry 3 }

    mip6HaBUAcceptedTime  OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time at which the last Binding Update was
                 accepted by the home agent for this mobile node.
                "
        ::= { mip6HaCounterEntry 4 }
```

```
    mip6HaBURejectionTime  OBJECT-TYPE
        SYNTAX      DateAndTime
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "The time at which the last Binding Update was
                 rejected by the home agent for this mobile node.
                 If there have been no rejections, then this object
                 will be inaccessible.
                "
        ::= { mip6HaCounterEntry 5 }

    mip6HaRecentBURejectionCode  OBJECT-TYPE
        SYNTAX      Mip6BURequestRejectionCode
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
                "If a Binding Acknowledgment is sent to the mobile
                 node, this is the status code (> 128) that is
                 returned in the Binding Acknowledgment.
                 In case a Binding Acknowledgment is not sent to the
                 mobile node, then this will be the value of the
                 status code that corresponds to the reason of the
                 rejection.
                 If there have been no rejections, then this object
                 will be inaccessible.
                "
        ::= { mip6HaCounterEntry 6 }

     mip6HaCtrDiscontinuityTime OBJECT-TYPE
        SYNTAX      TimeStamp
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
               "The value of sysUpTime on the most recent occasion
                at which any one or more of counters in this row,
                viz., instances of 'mip6HaBURequestsAccepted' and
                'mip6HaBURequestsRejected', suffered a discontinuity.
                If no such discontinuities have occurred since the
                last re-initialization of the local management
                subsystem, then this object will have a zero value.
               "
        ::= { mip6HaCounterEntry 7 }

    -- Home Agent List Table
```

```
    mip6HaListTable OBJECT-TYPE
        SYNTAX      SEQUENCE OF Mip6HaListEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
                "This table models the Home Agents List that contains
                 the list of all routers that are acting as home
                 agents on each of the interfaces on which the home
                 agent service is offered by this router.
                "
           REFERENCE
                   "RFC 3775 : Section 10.1"
        ::= { mip6HaAdvertisement 4 }

    mip6HaListEntry  OBJECT-TYPE
        SYNTAX      Mip6HaListEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "Information about a router that is offering home
                agent service.
                The instances of the columnar objects in this entry
                pertain to an interface for a particular value of
                mip6HaLinkLocalAddressType and
                mip6HaLinkLocalAddress.  The interface is uniquely
                identified by its ipv6InterfaceIfIndex.  The same
                ipv6InterfaceIfIndex object is used in conjunction
                with the mip6HaLinkLocalAddressType and
                mip6HaLinkLocalAddress to uniquely identify
                instances of the columnar objects of this row.

                Implementors need to be aware that if the total
                number of octets in mip6HaLinkLocalAddress
                exceeds 112, then OIDs of column instances in
                this row will have more than 128 sub-identifiers and
                cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
               "
        INDEX   { ipv6InterfaceIfIndex, mip6HaLinkLocalAddressType,
                                        mip6HaLinkLocalAddress }
        ::= { mip6HaListTable 1 }

    Mip6HaListEntry      ::= SEQUENCE {
        mip6HaLinkLocalAddressType      InetAddressType,
        mip6HaLinkLocalAddress          InetAddress,
        mip6HaPreference                Integer32,
        mip6HaRecvLifeTime              Gauge32,
        mip6HaRecvTimeStamp             DateAndTime
        }
```

```
       mip6HaLinkLocalAddressType  OBJECT-TYPE
           SYNTAX      InetAddressType
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The address type for the link-local address
                    of the home agent that follows.
                   "
           REFERENCE
                   "RFC 3775 : Section 10.1"
           ::= { mip6HaListEntry 1 }

       mip6HaLinkLocalAddress  OBJECT-TYPE
           SYNTAX      InetAddress
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The link local address of the home agent.

                    The type of the address represented by this object
                    is specified by the corresponding
                    mip6HaLinkLocalAddressType object.
                   "
           REFERENCE
                   "RFC 3775 : Section 10.1"
           ::= { mip6HaListEntry 2 }

      mip6HaPreference     OBJECT-TYPE
           SYNTAX      Integer32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The preference value of this home agent.
                    Higher values indicate a more preferable home
                    agent.  The preference value is obtained from
                    the preference field of the received Router
                    Advertisement.
                   "
           REFERENCE
                   "RFC 3775 : Section 10.1"
           ::= { mip6HaListEntry 3 }
```

```
      mip6HaRecvLifeTime       OBJECT-TYPE
           SYNTAX      Gauge32
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The lifetime for this home agent.
                   "
           REFERENCE
                   "RFC 3775 : Section 10.1"
           ::= { mip6HaListEntry 4 }

      mip6HaRecvTimeStamp  OBJECT-TYPE
           SYNTAX      DateAndTime
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The time when the home agent advertisement was
                    received.
                   "
           ::= { mip6HaListEntry 5 }

      --
      -- The list of global addresses of a home agent in the
      -- home agent list
      --

      mip6HaGlAddrTable OBJECT-TYPE
           SYNTAX      SEQUENCE OF Mip6HaGlAddrEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "This table contains the global addresses of the home
                    agents in the Home Agents List.
                   "
              REFERENCE
                       "RFC 3775 : Section 10.1"
           ::= { mip6HaAdvertisement 5 }
```

```
    mip6HaGlAddrEntry  OBJECT-TYPE
        SYNTAX      Mip6HaGlAddrEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
               "A global address for a home agent in the Home Agents
                List.
                The instances of the columnar objects in this entry
                pertain to an interface for a particular value of
                mip6HaLinkLocalAddressType, mip6HaLinkLocalAddress
                and mip6HaGaAddrSeqNo.
                The mip6HaGaAddrSeqNo object is used to distinguish
                between multiple instances of the home agent global
                addresses on the same interface for the same set of
                mip6HaLinkLocalAddressType, mip6HaLinkLocalAddress,
                values.
                There is no upper-bound on the maximum number of
                global addresses on an interface but, for practical
                purposes, the upper-bound of the value
                mip6HaGaAddrSeqNo is set to 1024.
                The interface is uniquely identified by its
                ipv6InterfaceIfIndex.  The same ipv6InterfaceIfIndex
                object is used in conjunction with the
                mip6HaLinkLocalAddressType, mip6HaLinkLocalAddress,
                and mip6HaGaAddrSeqNo to uniquely identify instances
                of the columnar objects of this row.

                Implementors need to be aware that if the total
                number of octets in mip6HaLinkLocalAddress
                exceeds 111, then OIDs of column instances in
                this row will have more than 128 sub-identifiers and
                cannot be accessed using SNMPv1, SNMPv2c, or SNMPv3.
               "
        INDEX   { ipv6InterfaceIfIndex,   mip6HaLinkLocalAddressType,
                  mip6HaLinkLocalAddress, mip6HaGaAddrSeqNo }
        ::= { mip6HaGlAddrTable 1 }

    Mip6HaGlAddrEntry      ::= SEQUENCE {
        mip6HaGaAddrSeqNo              Integer32,
        mip6HaGaGlobalAddressType      InetAddressType,
        mip6HaGaGlobalAddress          InetAddress
    }
```

```
       mip6HaGaAddrSeqNo  OBJECT-TYPE
           SYNTAX      Integer32 (1..1024)
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
                   "The index that along with ipv6InterfaceIfIndex,
                    mip6HaLinkLocalAddressType, and
                    mip6HaLinkLocalAddress uniquely identifies this row.
                   "
              REFERENCE
                      "RFC 3775 : Section 10.1"
           ::= { mip6HaGlAddrEntry 1 }

       mip6HaGaGlobalAddressType  OBJECT-TYPE
           SYNTAX      InetAddressType
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "The address type for the global address of the
                    home agent that follows.
                   "
           ::= { mip6HaGlAddrEntry 2 }

       mip6HaGaGlobalAddress  OBJECT-TYPE
           SYNTAX      InetAddress
           MAX-ACCESS  read-only
           STATUS      current
           DESCRIPTION
                   "A global address of the home agent.

                    The type of the address represented by this object
                    is specified by the corresponding
                    mip6HaGaGlobalAddressType object.
                   "
           ::= { mip6HaGlAddrEntry 3 }

   --
   -- Notifications
   --
```

```
    mip6MnRegistered NOTIFICATION-TYPE
        OBJECTS   {
                    mip6BindingTimeRegistered,
                    mip6BindingCOAType,
                    mip6BindingCOA
                  }
        STATUS    current
        DESCRIPTION
                "This notification is sent by a home agent when
                 a mobile node registers with the home agent
                 for the first time.
                 Notifications will not be sent for subsequent
                 updates and/or refreshes.
                 The MO instances in the notifications will be
                 identified by the mip6BindingHomeAddressType
                 and mip6BindingHomeAddress for the mobile node
                 in the mip6BindingCacheTable.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.1"
        ::= { mip6Notifications 1 }

    mip6MnDeRegistered NOTIFICATION-TYPE
        OBJECTS   {
                    mip6BindingTimeRegistered,
                    mip6BindingCOAType,
                    mip6BindingCOA
                  }
        STATUS    current
        DESCRIPTION
                "This notification is sent by a home agent every
                 time a mobile node de-registers with the home
                 agent by sending a Binding Update that requests
                 the home agent to delete a binding.
                 The MO instances in the notifications will be
                 identified by the mip6BindingHomeAddressType
                 and mip6BindingHomeAddress for the mobile node
                 in the mip6BindingCacheTable.
                "
           REFERENCE
                   "RFC 3775 : Section 10.3.2"
        ::= { mip6Notifications 2 }
```

```
    mip6MnCOAChanged NOTIFICATION-TYPE
        OBJECTS   {
                    mip6BindingTimeRegistered,
                    mip6BindingCOAType,
                    mip6BindingCOA
                  }
        STATUS    current
        DESCRIPTION
                "This notification is sent by a home agent every
                 time a mobile node sends a Binding Update with
                 a new care-of address (for an existing Binding
                 Cache entry).
                 Notifications will not be sent for subsequent
                 updates and/or refreshes for the same Care-of
                 address.
                 The registration of a new care-of address may
                 indicate that the mobile node has moved or that
                 the primary care-of address of the mobile node
                 has become deprecated.
                 The MO instances in the notifications will be
                 identified by the mip6BindingHomeAddressType
                 and mip6BindingHomeAddress for the mobile node
                 in the mip6BindingCacheTable.
                "
           REFERENCE
                    "RFC 3775 : Section 11.5.2, 11.7.1"
        ::= { mip6Notifications 3 }

    mip6MnBindingExpiredAtHA NOTIFICATION-TYPE
        OBJECTS   {
                    mip6BindingTimeRegistered,
                    mip6BindingCOAType,
                    mip6BindingCOA
                  }
        STATUS    current
        DESCRIPTION
                "This notification is sent by a home agent when a
                 binding for the mobile node at the home agent
                 expired (no timely Binding Updates were received).
                 The MO instances in the notifications will be
                 identified by the mip6BindingHomeAddressType
                 and mip6BindingHomeAddress for the mobile node
                 in the mip6BindingCacheTable.
                "
           REFERENCE
                    "RFC 3775 : Section 10.3.2"
        ::= { mip6Notifications 4 }
```

```
    mip6MnBindingExpiredAtCN NOTIFICATION-TYPE
        OBJECTS   {
                    mip6BindingTimeRegistered,
                    mip6BindingCOAType,
                    mip6BindingCOA
                  }
        STATUS    current
        DESCRIPTION
                "This notification is sent by a correspondent node
                 when a binding for the mobile node at the
                 correspondent node expired (no timely Binding
                 Updates were received).
                 The MO instances in the notifications will be
                 identified by the mip6BindingHomeAddressType
                 and mip6BindingHomeAddress for the mobile node
                 in the mip6BindingCacheTable.
                "
        ::= { mip6Notifications 5 }
```

```
       -- Conformance information
      mip6Groups      OBJECT IDENTIFIER ::= { mip6Conformance 1 }
      mip6Compliances OBJECT IDENTIFIER ::= { mip6Conformance 2 }

       -- Units of conformance
      mip6SystemGroup    OBJECT-GROUP
           OBJECTS {
                     mip6Capabilities,
                     mip6Status
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for basic MIPv6
                     monitoring."
           ::= { mip6Groups 1 }

      mip6BindingCacheGroup    OBJECT-GROUP
           OBJECTS {
                     mip6BindingCOAType,
                     mip6BindingCOA,
                     mip6BindingTimeRegistered,
                     mip6BindingTimeGranted,
                     mip6BindingTimeRemaining,
                     mip6BindingMaxSeq,
                     mip6BindingHomeRegn,
                     mip6BindingUsageTS,
                     mip6BindingUsageCount,
                     mip6BindingAdminStatus
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring the
                     Binding Cache.
                   "
           ::= { mip6Groups 2 }
```

```
      mip6BindingHstGroup    OBJECT-GROUP
           OBJECTS {
                     mip6BindingHstCOAType,
                     mip6BindingHstCOA,
                     mip6BindingHstTimeRegistered,
                     mip6BindingHstTimeExpired,
                     mip6BindingHstHomeRegn,
                     mip6BindingHstUsageTS,
                     mip6BindingHstUsageCount
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring the
                     Binding History.  This can be used to monitor
                     the movement of the mobile node.
                   "
           ::= { mip6Groups 3 }

      mip6TotalTrafficGroup    OBJECT-GROUP
           OBJECTS {
                     mip6InOctets,
                     mip6HCInOctets,
                     mip6InPkts,
                     mip6HCInPkts,
                     mip6OutOctets,
                     mip6HCOutOctets,
                     mip6OutPkts,
                     mip6HCOutPkts,
                     mip6CounterDiscontinuityTime
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring the
                     total MIPv6 traffic.
                   "
           ::= { mip6Groups 4 }
```

```
      mip6NodeTrafficGroup    OBJECT-GROUP
           OBJECTS {
                     mip6NodeInOctets,
                     mip6HCNodeInOctets,
                     mip6NodeInPkts,
                     mip6HCNodeInPkts,
                     mip6NodeOutOctets,
                     mip6HCNodeOutOctets,
                     mip6NodeOutPkts,
                     mip6HCNodeOutPkts,
                     mip6NodeCtrDiscontinuityTime
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring the
                     MIPv6 traffic due to a mobile node.
                   "
           ::= { mip6Groups 5 }

      mip6MnSystemGroup    OBJECT-GROUP
           OBJECTS {
                     mip6MnHomeAddressState
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for basic monitoring
                     of the mobile node.
                   "
           ::= { mip6Groups 6 }

      mip6MnConfGroup   OBJECT-GROUP
           OBJECTS {
                     mip6MnDiscoveryRequests,
                     mip6MnDiscoveryReplies,
                     mip6MnDiscoveryTimeouts,
                     mip6MnPrefixSolicitationsSent,
                     mip6MnPrefixAdvsRecd,
                     mip6MnPrefixAdvsIgnored,
                     mip6MnMovedToFN,
                     mip6MnMovedToHN
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     the advertisement-related info on the
                     mobile node.
                   "
           ::= { mip6Groups 7 }
```

```
      mip6MnRegistrationGroup  OBJECT-GROUP
           OBJECTS {
                     mip6MnBLCOAType,
                     mip6MnBLCOA,
                     mip6MnBLLifeTimeRequested,
                     mip6MnBLLifeTimeGranted,
                     mip6MnBLMaxSeq,
                     mip6MnBLTimeSent,
                     mip6MnBLAccepted,
                     mip6MnBLAcceptedTime,
                     mip6MnBLRetransmissions,
                     mip6MnBLDontSendBUFlag,
                   --
                   -- Binding Update List
                   --
                     mip6MnMobilityMessagesSent,
                     mip6MnMobilityMessagesRecd,
                     mip6MnBUsToHA,
                     mip6MnBUAcksFromHA,
                     mip6MnBUsToCN,
                     mip6MnBUAcksFromCN,
                     mip6MnBindingErrorsFromCN,
                     mip6MnICMPErrorsRecd,
                     mip6MnBRRequestsRecd
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     the registration statistics for the mobile node.
                   "
           ::= { mip6Groups 8 }
```

```
      mip6CnStatsGroup   OBJECT-GROUP
           OBJECTS {
                     mip6CnBURequestsAccepted,
                     mip6CnBURequestsRejected,
                     mip6CnBCEntryCreationTime,
                     mip6CnBUAcceptedTime,
                     mip6CnBURejectionTime,
                     mip6CnBURejectionCode,
                     mip6CnCtrDiscontinuityTime
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     the control messages and corresponding
                     statistics for each mobile node
                     communicating with the correspondent
                     node.
                   "
           ::= { mip6Groups 9 }

      mip6HaSystemGroup   OBJECT-GROUP
           OBJECTS {
                     mip6HaAdvsRecd,
                     mip6HaAdvsSent,
                     mip6HaAdvPreference,
                     mip6HaAdvLifetime,
                     mip6HaPrefixAdv,
                     mip6HaPrefixSolicitation,
                     mip6HaMCastCtlMsgSupport
          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     the advertisement-related parameters and
                     statistics for the home agent.
                   "
           ::= { mip6Groups 10 }
```

```
       mip6HaListGroup   OBJECT-GROUP
           OBJECTS {
                     mip6HaPreference,
                     mip6HaRecvLifeTime,
                     mip6HaRecvTimeStamp,
                     mip6HaGaGlobalAddressType,
                     mip6HaGaGlobalAddress
              }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     the Home Agent List on the home agent.
                   "
           ::= { mip6Groups 11 }

       mip6HaStatsGroup   OBJECT-GROUP
           OBJECTS {
                     mip6HaBURequestsAccepted,
                     mip6HaBURequestsDenied,
                     mip6HaBCEntryCreationTime,
                     mip6HaBUAcceptedTime,
                     mip6HaBURejectionTime,
                     mip6HaRecentBURejectionCode,
                     mip6HaCtrDiscontinuityTime

              }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     registration-related statistics on the home agent.
                   "
           ::= { mip6Groups 12 }
```

```
       mip6CnGlobalStatsGroup   OBJECT-GROUP
           OBJECTS {
                     mip6CnHomeTestInitsRecd,
                     mip6CnHomeTestsSent,
                     mip6CnCareOfTestInitsRecd,
                     mip6CnCareOfTestsSent,
                     mip6CnBUsRecd,
                     mip6CnBUAcksSent,
                     mip6CnBRsSent,
                     mip6CnBindingErrors,
                     mip6CnBUsAccepted,
                     mip6CnBUsRejected,
                     mip6CnReasonUnspecified,
                     mip6CnInsufficientResource,
                     mip6CnHomeRegnNotSupported,
                     mip6CnSeqNumberOutOfWindow,
                     mip6CnExpiredHomeNonceIndex,
                     mip6CnExpiredCareOfNonceIndex,
                     mip6CnExpiredNonce,
                     mip6CnRegTypeChangeDisallowed
           }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     advertisement and registration statistics on
                     a correspondent node.
                   "
           ::= { mip6Groups 13 }
```

```
       mip6HaGlobalStatsGroup   OBJECT-GROUP
           OBJECTS {
                     mip6HaHomeTestInitsRecd,
                     mip6HaHomeTestsSent,
                     mip6HaBUsRecd,
                     mip6HaBUAcksSent,
                     mip6HaBRAdviceSent,
                     mip6HaBUsAccepted,
                     mip6HaPrefDiscoverReqd,
                     mip6HaReasonUnspecified,
                     mip6HaAdmProhibited,
                     mip6HaInsufficientResource,
                     mip6HaHomeRegnNotSupported,
                     mip6HaNotHomeSubnet,
                     mip6HaNotHomeAgentForThisMN,
                     mip6HaDupAddrDetectionFailed,
                     mip6HaSeqNumberOutOfWindow,
                     mip6HaExpiredHomeNonceIndex,
                     mip6HaRegTypeChangeDisallowed

          }
           STATUS  current
           DESCRIPTION
                   " A collection of objects for monitoring
                     advertisement and registration statistics on
                     a home agent.
                   "
           ::= { mip6Groups 14 }

       mip6BindingCacheCtlGroup    OBJECT-GROUP
           OBJECTS {
                     mip6BindingAdminStatus
          }
           STATUS  current
           DESCRIPTION
                   "A collection of objects for controlling the
                    Binding Cache.
                   "
           ::= { mip6Groups 15 }
```

```
       mip6NotificationGroup   NOTIFICATION-GROUP
           NOTIFICATIONS {
                     mip6MnRegistered,
                     mip6MnDeRegistered,
                     mip6MnCOAChanged,
                     mip6MnBindingExpiredAtHA,
                     mip6MnBindingExpiredAtCN
          }
           STATUS  current
           DESCRIPTION
                   "A collection of notifications from a home agent
                    or correspondent node to the Manager about the
                    status of a mobile node.
                   "
           ::= { mip6Groups 16 }


       -- Compliance statements
```

```
      mip6CoreCompliance MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB.
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6SystemGroup }

           ::= { mip6Compliances 1 }

      mip6Compliance2 MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB and support
                   monitoring of the Binding Cache and the Total
                   Traffic.
                   There are a number of INDEX objects that cannot be
                   represented in the form of OBJECT clauses in SMIv2,
                   but for which there are compliance requirements,
                   expressed in OBJECT clause form in this description:
                   -- OBJECT      mip6BindingHomeAddressType
                   -- SYNTAX      InetAddressType { ipv6(2) }
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6BindingHomeAddress
                   -- SYNTAX      InetAddress (SIZE(16))
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6SystemGroup,
                                  mip6BindingCacheGroup,
                                  mip6TotalTrafficGroup
                                   }
           ::= { mip6Compliances 2 }
```

```
      mip6Compliance3 MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB and
                   support monitoring of the Binding Cache,
                   the Binding History, the total traffic, and
                   the mobile node-wide traffic.
                   There are a number of INDEX objects that cannot be
                   represented in the form of OBJECT clauses in SMIv2,
                   but for which there are compliance requirements,
                   expressed in OBJECT clause form in this description:
                   -- OBJECT      mip6BindingHomeAddressType
                   -- SYNTAX      InetAddressType { ipv6(2) }
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6BindingHomeAddress
                   -- SYNTAX      InetAddress (SIZE(16))
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6BindingHstHomeAddressType
                   -- SYNTAX      InetAddressType { ipv6(2) }
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the
                   --     mip6BindingHstHomeAddress object.
                   --
                   -- OBJECT      mip6BindingHstHomeAddress
                   -- SYNTAX      InetAddress (SIZE(16))
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the
                   --     mip6BindingHstHomeAddress object.
                   --
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6SystemGroup,
                                  mip6BindingCacheGroup,
                                  mip6BindingHstGroup,
                                  mip6TotalTrafficGroup,
                                  mip6NodeTrafficGroup
                                 }
```

```
          ::= { mip6Compliances 3 }


     mip6CoreReadOnlyCompliance MODULE-COMPLIANCE
          STATUS  current
          DESCRIPTION
                 "The compliance statement for SNMP entities
                  that implement the MOBILEIPV6-MIB without support
                  for read-write (i.e., in read-only mode).
                 "
          MODULE  -- this module
              MANDATORY-GROUPS { mip6SystemGroup }

          OBJECT      mip6Status
          MIN-ACCESS  read-only
          DESCRIPTION
                 "Write access is not required."

          ::= { mip6Compliances 4 }

     mip6ReadOnlyCompliance2 MODULE-COMPLIANCE
          STATUS  current
          DESCRIPTION
                 "The compliance statement for SNMP entities
                  that implement the MOBILEIPV6-MIB without support
                  for read-write (i.e., in read-only mode) and
                  support monitoring of the Binding Cache and Total
                  Traffic.
                  There are a number of INDEX objects that cannot be
                  represented in the form of OBJECT clauses in SMIv2,
                  but for which there are compliance requirements,
                  expressed in OBJECT clause form in this description:
                  -- OBJECT      mip6BindingHomeAddressType
                  -- SYNTAX      InetAddressType { ipv6(2) }
                  -- DESCRIPTION
                  --     This MIB module requires support for global
                  --     ipv6 addresses for the mip6BindingHomeAddress
                  --     object.
                  --
                  -- OBJECT      mip6BindingHomeAddress
                  -- SYNTAX      InetAddress (SIZE(16))
                  -- DESCRIPTION
                  --     This MIB module requires support for global
                  --     ipv6 addresses for the mip6BindingHomeAddress
                  --     object.
                  --
                 "
          MODULE  -- this module
```

```
            MANDATORY-GROUPS { mip6SystemGroup,
                               mip6BindingCacheGroup,
                               mip6TotalTrafficGroup
                                }
        OBJECT      mip6Status
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6BindingAdminStatus
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."
        ::= { mip6Compliances 5 }

    mip6ReadOnlyCompliance3 MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB without support
                for read-write (i.e., in read-only mode) and support
                monitoring of the Binding Cache, the Binding History,
                the total traffic, and the mobile node-wide traffic.
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6BindingHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHstHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the
                --     mip6BindingHstHomeAddress object.
                --
```

```
                -- OBJECT      mip6BindingHstHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the
                --     mip6BindingHstHomeAddress object.
                --
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6SystemGroup,
                               mip6BindingCacheGroup,
                               mip6BindingHstGroup,
                               mip6TotalTrafficGroup,
                               mip6NodeTrafficGroup
                              }
        OBJECT      mip6Status
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6BindingAdminStatus
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."
        ::= { mip6Compliances 6 }

    mip6MnCoreCompliance MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support monitoring of the basic mobile node
                functionality.
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6MnHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6MnHomeAddress
                --     object.
                --
                -- OBJECT      mip6MnHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
```

```
                --     ipv6 addresses for the mip6MnHomeAddress
                --     object.
                --
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6MnSystemGroup
                             }
        ::= { mip6Compliances 7 }

    mip6MnCompliance2 MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support monitoring of the mobile node
                functionality specifically the Discovery- and
                Registration-related statistics,
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6MnHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6MnHomeAddress
                --     object.
                --
                -- OBJECT      mip6MnHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6MnHomeAddress
                --     object.
                --
                -- OBJECT      mip6MnBLNodeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6MnBLNodeAddress
                --     object.
                --
                -- OBJECT      mip6MnBLNodeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6MnBLNodeAddress
                --     object.
```

```
                --
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6MnSystemGroup,
                               mip6MnConfGroup,
                               mip6MnRegistrationGroup,
                               mip6TotalTrafficGroup
                              }
        ::= { mip6Compliances 8 }

    mip6CnCoreCompliance MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
                "The compliance statement for SNMP entities
                 that implement the MOBILEIPV6-MIB and
                 support monitoring of the basic correspondent node
                 functionality.
                "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6CnGlobalStatsGroup,
                               mip6TotalTrafficGroup
                              }
        ::= { mip6Compliances 9 }

    mip6CnCompliance MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support monitoring of the basic correspondent node
                functionality.
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6BindingHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
```

```
                "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6CnGlobalStatsGroup,
                               mip6CnStatsGroup,
                               mip6TotalTrafficGroup
                             }
        ::= { mip6Compliances 10 }

    mip6HaCoreCompliance MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
                "The compliance statement for SNMP entities
                 that implement the MOBILEIPV6-MIB and
                 support monitoring of the basic home agent
                 functionality.
                "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6HaSystemGroup
                             }
        ::= { mip6Compliances 11 }

    mip6HaCompliance2 MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support monitoring of the home agent
                functionality specifically the Home Agent List
                and the home-agent-registration-related statistics,
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6BindingHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6HaLinkLocalAddressType
```

```
                -- SYNTAX      InetAddressType { ipv6z(4) }
                -- DESCRIPTION
                --     This MIB module requires support for local
                --     ipv6 addresses for the mip6HaLinkLocalAddress
                --     object.
                --
                -- OBJECT      mip6HaLinkLocalAddress
                -- SYNTAX      InetAddress (SIZE(20))
                -- DESCRIPTION
                --     This MIB module requires support for local
                --     ipv6 addresses for the mip6HaLinkLocalAddress
                --     object.
                --
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6HaSystemGroup,
                               mip6HaListGroup,
                               mip6HaStatsGroup,
                               mip6HaGlobalStatsGroup,
                               mip6TotalTrafficGroup
                             }
        ::= { mip6Compliances 12 }

    mip6HaCompliance3 MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support monitoring and control of the home agent
                functionality specifically the Home Agent List
                and the home-agent-registration-related statistics,

                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
                -- OBJECT      mip6BindingHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
```

```
                --     object.
                --
                -- OBJECT      mip6HaLinkLocalAddressType
                -- SYNTAX      InetAddressType { ipv6z(4) }
                -- DESCRIPTION
                --     This MIB module requires support for local
                --     ipv6 addresses for the mip6HaLinkLocalAddress
                --     object.
                --
                -- OBJECT      mip6HaLinkLocalAddress
                -- SYNTAX      InetAddress (SIZE(20))
                -- DESCRIPTION
                --     This MIB module requires support for local
                --     ipv6 addresses for the mip6HaLinkLocalAddress
                --     object.
                --
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6HaSystemGroup,
                               mip6HaListGroup,
                               mip6HaStatsGroup,
                               mip6HaGlobalStatsGroup,
                               mip6BindingCacheCtlGroup,
                               mip6TotalTrafficGroup
                             }
        ::= { mip6Compliances 13 }
```

```
      mip6HaCoreReadOnlyCompliance MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB without support
                   for read-write (i.e., in read-only mode) and
                   support monitoring of the basic home agent
                   functionality.
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6HaSystemGroup
                                }
           OBJECT      mip6HaAdvPreference
           MIN-ACCESS  read-only
           DESCRIPTION
                  "Write access is not required."

           OBJECT      mip6HaAdvLifetime
           MIN-ACCESS  read-only
           DESCRIPTION
                  "Write access is not required."

           OBJECT      mip6HaPrefixAdv
           MIN-ACCESS  read-only
           DESCRIPTION
                  "Write access is not required."

           OBJECT      mip6HaPrefixSolicitation
           MIN-ACCESS  read-only
           DESCRIPTION
                  "Write access is not required."

           OBJECT      mip6HaMCastCtlMsgSupport
           MIN-ACCESS  read-only
           DESCRIPTION
                  "Write access is not required."

           ::= { mip6Compliances 14 }
```

```
      mip6HaReadOnlyCompliance2 MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB without support
                   for read-write (i.e., in read-only mode) and
                   support monitoring of the home agent
                   functionality specifically the Home Agent List
                   and the home-agent-registration-related statistics.

                   There are a number of INDEX objects that cannot be
                   represented in the form of OBJECT clauses in SMIv2,
                   but for which there are compliance requirements,
                   expressed in OBJECT clause form in this description:
                   -- OBJECT      mip6BindingHomeAddressType
                   -- SYNTAX      InetAddressType { ipv6(2) }
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6BindingHomeAddress
                   -- SYNTAX      InetAddress (SIZE(16))
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6HaLinkLocalAddressType
                   -- SYNTAX      InetAddressType { ipv6z(4) }
                   -- DESCRIPTION
                   --     This MIB module requires support for local
                   --     ipv6 addresses for the mip6HaLinkLocalAddress
                   --     object.
                   --
                   -- OBJECT      mip6HaLinkLocalAddress
                   -- SYNTAX      InetAddress (SIZE(20))
                   -- DESCRIPTION
                   --     This MIB module requires support for local
                   --     ipv6 addresses for the mip6HaLinkLocalAddress
                   --     object.
                   --
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6HaSystemGroup,
                                  mip6HaListGroup,
                                  mip6HaStatsGroup,
                                  mip6HaGlobalStatsGroup,
```

```
                          mip6TotalTrafficGroup
                        }

        OBJECT      mip6HaAdvPreference
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaAdvLifetime
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaPrefixAdv
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaPrefixSolicitation
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaMCastCtlMsgSupport
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        ::= { mip6Compliances 15 }
```

```
      mip6HaReadOnlyCompliance3 MODULE-COMPLIANCE
           STATUS  current
           DESCRIPTION
                  "The compliance statement for SNMP entities
                   that implement the MOBILEIPV6-MIB without support
                   for read-write (i.e., in read-only mode) and
                   support monitoring and control of the home agent
                   functionality specifically the Home Agent List
                   and the home-agent-registration-related statistics,

                   There are a number of INDEX objects that cannot be
                   represented in the form of OBJECT clauses in SMIv2,
                   but for which there are compliance requirements,
                   expressed in OBJECT clause form in this description:
                   -- OBJECT      mip6BindingHomeAddressType
                   -- SYNTAX      InetAddressType { ipv6(2) }
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6BindingHomeAddress
                   -- SYNTAX      InetAddress (SIZE(16))
                   -- DESCRIPTION
                   --     This MIB module requires support for global
                   --     ipv6 addresses for the mip6BindingHomeAddress
                   --     object.
                   --
                   -- OBJECT      mip6HaLinkLocalAddressType
                   -- SYNTAX      InetAddressType { ipv6z(4) }
                   -- DESCRIPTION
                   --     This MIB module requires support for local
                   --     ipv6 addresses for the mip6HaLinkLocalAddress
                   --     object.
                   --
                   -- OBJECT      mip6HaLinkLocalAddress
                   -- SYNTAX      InetAddress (SIZE(20))
                   -- DESCRIPTION
                   --     This MIB module requires support for local
                   --     ipv6 addresses for the mip6HaLinkLocalAddress
                   --     object.
                   --
                  "
           MODULE  -- this module
               MANDATORY-GROUPS { mip6HaSystemGroup,
                                  mip6HaListGroup,
                                  mip6HaStatsGroup,
                                  mip6HaGlobalStatsGroup,
```

```
                              mip6BindingCacheCtlGroup,
                              mip6TotalTrafficGroup
                             }

        OBJECT      mip6HaAdvPreference
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaAdvLifetime
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaPrefixAdv
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaPrefixSolicitation
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6HaMCastCtlMsgSupport
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        OBJECT      mip6BindingAdminStatus
        MIN-ACCESS  read-only
        DESCRIPTION
               "Write access is not required."

        ::= { mip6Compliances 16 }

    mip6NotificationCompliance MODULE-COMPLIANCE
        STATUS  current
        DESCRIPTION
               "The compliance statement for SNMP entities
                that implement the MOBILEIPV6-MIB and
                support Notification from home agent or
                correspondent node to management stations
                about the mobile node status.
                There are a number of INDEX objects that cannot be
                represented in the form of OBJECT clauses in SMIv2,
                but for which there are compliance requirements,
                expressed in OBJECT clause form in this description:
```

```
                -- OBJECT      mip6BindingHomeAddressType
                -- SYNTAX      InetAddressType { ipv6(2) }
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
                --
                -- OBJECT      mip6BindingHomeAddress
                -- SYNTAX      InetAddress (SIZE(16))
                -- DESCRIPTION
                --     This MIB module requires support for global
                --     ipv6 addresses for the mip6BindingHomeAddress
                --     object.
               "
        MODULE  -- this module
            MANDATORY-GROUPS { mip6NotificationGroup
                             }
        ::= { mip6Compliances 17 }

    END
```

6. Security Considerations

There are a number of management objects defined in this MIB module with a MAX-ACCESS clause of read-write. Such objects may be considered sensitive or vulnerable in some network environments. The support for SET operations in a non-secure environment without proper protection can have a negative effect on network operations. These are the tables and objects and the corresponding sensitivity/vulnerability:

mip6Status: The value of this object is used to enable or disable the MIPv6 functionality on a MIPv6 entity. Access to this MO may be abused to disrupt the MIPv6 communication.

mip6HaAdvPreference: Access to this object may be abused to force MNs into selecting the wrong HA.

mip6HaAdvLifetime: Access to this object may be abused to set the advertised lifetime to incorrect values. That will have an adverse impact on the MIPv6 communication.

mip6BindingAdminStatus: The value of this object is used to control the status of a Binding Cache entry. Access to this object may be abused to deny Mobile IPv6 connectivity to a legitimate user or to grant Mobile IPv6 connectivity to an illegal user.

mip6HaPrefixAdv: The value of this object indicates whether the home agent will send ICMP Mobile Prefix Advertisements to the mobile node.
Access to this object may be abused to send unwanted/wrong prefix information or to deny the mobile node from receiving information about the changes in the home prefixes.
This may result in disruption of the Mobile IPv6 connectivity.

mip6HaPrefixSolicitation: The value of this object indicates whether the home agent should respond to ICMP Mobile Prefix Solicitation messages from a mobile node. Access to this object may be abused to deny the mobile node information about its home prefix. This may result in disruption of the Mobile IPv6 connectivity.

mip6HaMCastCtlMsgSupport: The value of this object decides whether the home agent should process the multicast group membership control messages it receives from mobile nodes. Access to this object may be used to subvert administrate policy on multicasting or to disrupt the multicast communication with the mobile node.

Some of the readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) may be considered sensitive or vulnerable in some network environments. It is thus important to control even GET and/or NOTIFY access to these objects and possibly to even encrypt the values of these objects when sending them over the network via SNMP. These are the tables and objects and their sensitivity/vulnerability:

The address-related objects in this MIB may be considered to be particularly sensitive and/or private. The care-of-address-related objects reveal the location and movement of the mobile node. This information may be considered to be private and sensitive and must be carefully handled.

- mip6BindingHstCOAType
- mip6BindingHstCOA
- mip6MnBLCOAType
- mip6MnBLCOA

The mobile node’s home-address- and home-agent-related information may be considered to be sensitive too as these may provide clues to a malicious party on ways to disrupt the mobile nodes communication channels.

- mip6BindingHstHomeAddressType,
- mip6BindingHstHomeAddress,
- mip6MnHomeAddressType,
- mip6MnHomeAddress

The correspondent node’s address-related MOs will reveal the nodes with whom the mobile node is corresponding. This information may be considered private and sensitive.

- mip6MnBLNodeAddressType,
- mip6MnBLNodeAddress

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPSec), even then, there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in this MIB module.

It is RECOMMENDED that implementors consider the security features as provided by the SNMPv3 framework (see [RFC3410], section 8), including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

Further, deployment of SNMP versions prior to SNMPv3 is NOT RECOMMENDED. Instead, it is RECOMMENDED to deploy SNMPv3 and to enable cryptographic security. It is then a customer/operator

responsibility to ensure that the SNMP entity giving access to an instance of this MIB module is properly configured to give access to the objects only to those principals (users) that have legitimate rights to indeed GET or SET (change/create/delete) them.

7. IANA Considerations

IANA has assigned a base arc in the 'mib-2' (standards track) OID tree for the 'mip6MIB' MODULE-IDENTITY defined in the Mobile-IPv6 MIB. The mib-2 number is 133 for mip6MIB.

8. References

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