   **Definition of Managed Objects for the Optimized Link State Routing
                        Protocol version 2**
                   draft-ietf-manet-olsrv2-mib-07

Abstract

   This document defines the Management Information Base (MIB) module
   for configuring and managing the Optimized Link State Routing
   protocol version 2 (OLSRv2). The OLSRv2-MIB module is structured
   into state information, performance information, and notifications.
   This additional state and performance information is useful to
   troubleshoot problems and performance issues of the routing protocol.
   Different levels of compliance allow implementers to use smaller
   subsets of all defined objects, allowing for this MIB module to be
   deployed on more constrained routers.

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1. Introduction

   This document defines the Management Information Base (MIB) module
   for configuring and managing the Optimized Link State Routing
   protocol version 2 (OLSRv2). The OLSRv2-MIB module is structured
   into state information, performance information, and notifications.
   In addition to configuration, this additional state and performance
   information is useful to troubleshoot problems and performance issues
   of the routing protocol. Different levels of compliance allow
   implementers to use smaller subsets of all defined objects, allowing
   for this MIB module to be deployed on more constrained routers.

2. 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
   [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 module are defined using the mechanisms defined in
   the Structure of Management Information (SMI). This document
   specifies a MIB module that is compliant to the SMIv2, which is
   described in [RFC2578], [RFC2579], and [RFC2580].

3. Conventions

   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
   [RFC2119].

4. Overview

   The Optimized Link State Routing Protocol version 2 (OLSRv2) [OLSRv2]
   is a table driven, proactive routing protocol, i.e., it exchanges
   topology information with other routers in the network periodically.
   OLSRv2 is an optimization of the classical link state routing
   protocol. Its key concept is that of MultiPoint Relays (MPRs). Each
   router selects a set of its neighbor routers (which "cover" all of
   its symmetrically connected 2-hop neighbor routers) as MPRs. MPRs
   are then used to achieve both flooding reduction and topology
   reduction.

   This document provides management and control capabilities of an
   OLSRv2 instance, allowing to monitor the state and performance of an
   OLSRV2 router, as well as to change settings of the OLSRv2 instance

(e.g., router or interface parameters such as message intervals
etc.).

As OLSRv2 relies on the neighborhood information discovered by the
"Mobile Ad Hoc Network (MANET) Neighborhood Discovery Protocol
(NHDP)" [RFC6130], the OLSRv2-MIB module is aligned with the NHDP-MIB
[RFC6779] module and augments several of the tables and objects in
the NHDP-MIB. In particular, common indexes for router interfaces
and discovered neighbors are used, as described in Section 5.2.

4.1. Terms

The following definitions apply throughout this document:

o Configuration Objects - switches, tables, objects which are
   initialized to default settings or set through the management
   interface defined by this MIB module.

o State Objects - automatically generated values which define the
   current operating state of the OLSRv2 protocol process in the
   router.

o Performance Objects - automatically generated values which help an
   administrator or automated tool to assess the performance of the
   OLSRv2 routing process on the router.

o Notification Objects - define triggers and associated notification
   messages allowing for asynchronous tracking of pre-defined events
   on the managed router.

5. Structure of the MIB Module

This section presents the structure of the OLSRv2-MIB module. The
objects are arranged into the following structure:

o olsrv2Objects - defines objects forming the basis for the OLSRv2-
   MIB module. These objects are divided up by function into the
   following groups:

   * Configuration Group - defining objects related to the
      configuration of the OLSRv2 instance on the router.

   * State Group - defining objects which reflect the current state
      of the OLSRv2 instance running on the router.

   * Performance Group -defining objects which are useful to a
      management station when characterizing the performance of
      OLSRv2 on the router and in the MANET.

   o olsrv2Notifications - objects defining OLSRv2-MIB module
      notifications.

   o olsrv2Conformance - defining the minimal and maximal conformance
      requirements for implementations of this MIB module.

5.1. The Configuration Group

   The OLSRv2 router is configured with a set of controls. The
   authoritative list of configuration controls within the OLSRv2-MIB
   module are found within the MIB module itself. Generally, an attempt
   was made in developing the OLSRv2-MIB module to support all
   configuration objects defined in [OLSRv2]. For all of the
   configuration parameters, the same constraints and default values of
   these parameters as defined in [OLSRv2] are followed.

5.2. The State Group

   The State Group reports current state information of a router running
   [OLSRv2]. The OLSRv2-MIB module State Group tables were designed to
   contain the complete set of state information defined within the
   information bases in [OLSRv2].

   The OLSRv2-MIB module State Group tables are constructed as
   extensions to the corresponding tables within the State Group of the
   NHDP-MIB [RFC6779] module. Use of the AUGMENTS clause is made, when
   possible, to accomplish these table extensions. Further, the State
   Group tables defined in this MIB module are aligned with the
   according tables in the NHDP-MIB [RFC6779] module, as described in
   Section 6.2.

5.3. The Performance Group

   The Performance Group reports values relevant to system performance.
   Frequent changes of sets or frequent recalculation of the routing set
   or the MPRs can have a negative influence on the performance of
   OLSRv2. This MIB module defines several objects that can be polled
   in order to, e.g., calculate histories or monitor frequencies of
   changes. This may help the network administrator to determine
   unusual topology changes or other changes that affect stability and
   reliability of the MANET. One such framework is specified in REPORT-
   MIB [REPORT-MIB].

5.4. The Notifications Group

   The Notifications sub-tree contains the list of notifications
   supported within the OLSRv2-MIB module and their intended purpose or
   utility.

The same mechanisms for improving the network performance by reducing
the number of notifications apply as defined in Section 5.1 of
[RFC6779]. The following objects are used to define the thresholds
and time windows for specific notifications defined in the NHDP-MIB
module: olsrv2RoutingSetRecalculationCountThreshold,
olsrv2RoutingSetRecalculationCountWindow,
olsrv2MPRSetRecalculationCountThreshold, and
olsrv2MPRSetRecalculationCountWindow.

The Notifications Group contains Control, Objects and States, where
the Control contains definitions of objects to control the frequency
of notifications being sent. The Objects define the supported
notifications and the State is used to define additional information
to be carried within the notifications.

5.5. Tables and Indexing

The OLSRv2-MIB module's tables are indexed via the following
constructs:

o nhdpIfIndex - the ifIndex of the local router on which NHDP is
   configured. This is defined in the NHDP-MIB.

o nhdpDiscIfIndex - a locally managed index representing a known
   interface on a neighboring router. This is defined in the NHDP-
   MIB.

o nhdpDiscRouterIndex - a locally managed index representing an ID
   of a known neighboring router. This is defined in the NHDP-MIB.

o olsrv2LibOrigSetIpAddrType and olsrv2LibOrigSetIpAddr - a recently
   used originator address by this router, and its type and prefix
   length.

o olsrv2LibLocAttNetSetIpAddrType, olsrv2LibLocAttNetSetIpAddr and
   olsrv2LibLocAttNetSetIpAddrPrefixLen - the network address of an
   attached network which can be reached via this router, and its
   type and its prefix length.

o olsrv2TibAdRemoteRouterSetRouterId - this is an additional index
   for each Remote Router's IfAddr associated with the
   olsrv2TibAdRemoteRouterSetIpAddr.

o olsrv2TibRouterTopologySetFromOrigIpAddrType and
   olsrv2TibRouterTopologySetFromOrigIpAddr - this is the originator
   address of a router which can reach the router with originator
   address TR_to_orig_addr in one hop.

o olsrv2TibAttNetworksSetNetIpAddrType,
   olsrv2TibAttNetworksSetNetIpAddr and
   olsrv2TibAttNetworksSetNetIpAddrPrefixLen - this is is the network
   address of an attached network, which may be reached via the
   router with originator address AN_orig_addr.

o olsrv2TibRoutingSetDestIpAddrType, olsrv2TibRoutingSetDestIpAddr
   and olsrv2TibRoutingSetDestIpAddrPrefixLen - this is the address
   of the destination, either the address of an interface of a
   destination router, or the network address of an attached network.

These tables and their indexing are:

o olsrv2InterfaceTable - describes the OLSRv2 status on the NHDP
   interfaces of this router. This table has AUGMENTS {
   nhdpInterfaceEntry } and as such it is indexed via the nhdpIfIndex
   from the NHDP-MIB.

o olsrv2IibLinkSetTable - records all links from other routers which
   are, or recently were, 1-hop neighbors. This table has AUGMENTS {
   nhdpIibLinkSetEntry } and as such it is indexed via the set
   nhdpIfIndex and nhdpDiscIfIndex.

o olsrv2Iib2HopSetTable - records network addresses of symmetric
   2-hop neighbors and the links to the associated 1-hop neighbors.
   This table has AUGMENTS { nhdpIib2HopSetEntry } and as such it is
   indexed via the set nhdpIfIndex, nhdpDiscIfIndex,
   nhdpIib2HopSetIpAddressType and nhdpIib2HopSetIpAddress.

o olsrv2LibOrigSetTable - records addresses that were recently used
   as originator addresses by this router. This table has INDEX {
   olsrv2LibOrigSetIndex }.

o olsrv2LibLocAttNetSetTable - records its local non-OLSRv2
   interfaces via which it can act as gateways to other networks.
   This table has INDEX { olsrv2LibLocAttNetSetIndex }.

o olsrv2NibNeighborSetTable - records all network addresses of each
   1-hop neighbor. This table has AUGMENTS { nhdpNibNeighborSetEntry
   } and as such it is indexed via the nhdpDiscRouterIndex.

o olsrv2TibAdRemoteRouterSetTable - records information describing
   each remote router in the network that transmits TC messages.
   This table has INDEX { olsrv2TibAdRemoteRouterSetRouterId }.

o olsrv2TibRouterTopologySetTable - records topology information
   about the network. This table has INDEX {
   olsrv2TibRouterTopologySetIndex }.

   o olsrv2TibRoutableAddressTopologySetTable - records topology
      information about the routable addresses within the MANET, and via
      which routers they may be reached. This table has INDEX
      {olsrv2TibRoutableAddressTopologySetIndex }.

   o olsrv2TibAttNetworksSetTable - records information about networks
      (which may be outside the MANET) attached to other routers and
      their routable addresses. This table has INDEX {
      olsrv2TibAttNetworksSetIndex }.

   o olsrv2TibRoutingSetTable - records the first hop along a selected
      path to each destination for which any such path is known. This
      table has INDEX { olsrv2TibRoutingSetDestIpAddrType,
      olsrv2TibRoutingSetDestIpAddr,
      olsrv2TibRoutingSetDestIpAddrPrefLen}.

   o olsrv2InterfacePerfTable - records performance counters for each
      active OLSRv2 interface on this device. selected path to each
      destination for which any such path is known. This table has
      AUGMENTS { nhdpInterfacePerfEntry } and as such it is indexed via
      nhdpIfIndex from the NHDP-MIB.

6. Relationship to Other MIB Modules

   This section specifies the relationship of the MIB modules contained
   in this document to other standards, particularly to standards
   containing other MIB modules. MIB modules and specific definitions
   imported from MIB modules that SHOULD be implemented in conjunction
   with the MIB module contained within this document are identified in
   this section.

6.1. Relationship to the SNMPv2-MIB

   The System group in the SNMPv2-MIB [RFC3418] module is defined as
   being mandatory for all systems, and the objects apply to the entity
   as a whole. The System group provides identification of the
   management entity and certain other system-wide data. The OLSRv2-MIB
   module does not duplicate those objects.

6.2. Relationship to the NHDP-MIB

   OLSRv2 depends on the neighborhood information that is discovered by
   [RFC6130]. In order access the Objects relating to discovered
   neighbors, the State Group tables of the NHDP-MIB [RFC6779] module
   are aligned with this MIB module. This is accomplished through the
   use of the AUGMENTS capability of SMIv2 and the definition of
   TEXTUAL-CONVENTIONS in the NHDP-MIB module: specifically the
   NeighborRouterIndex. These object types are used to develop indexes

into common NHDP-MIB module and routing protocol State Group tables.
These objects are locally significant but should be locally common to
the NHDP-MIB module and the OLSRv2-MIB module implemented on a common
networked router. This will allow for improved cross referencing of
information across the two MIB modules.

6.3. MIB modules required for IMPORTS

The following OLSRv2-MIB module IMPORTS objects from NHDP-MIB
[RFC6779], SNMPv2-SMI [RFC2578], SNMPv2-TC [RFC2579], SNMPv2-CONF
[RFC2580], IF-MIB [RFC2863], INET-ADDRESS-MIB [RFC4001] and FLOAT-TC-
MIB [RFC6340].

7. Definitions

This section contains the OLSRv2-MIB module defined by the
specification.

 OLSRv2-MIB DEFINITIONS ::= BEGIN

 -- This MIB module defines objects for the management of
 -- RFC XXXX - The Optimized Link State Routing Protocol
 -- version 2, Clausen, T., Dearlove, C., Jacquet, P.
 -- and U. Herberg, March 2013.

 IMPORTS

     MODULE-IDENTITY, OBJECT-TYPE, Counter32, Counter64,
     Integer32, Unsigned32, mib-2, TimeTicks,
     NOTIFICATION-TYPE
             FROM SNMPv2-SMI -- RFC 2578

     TEXTUAL-CONVENTION, TimeStamp, TruthValue
             FROM SNMPv2-TC -- RFC 2579

     MODULE-COMPLIANCE, OBJECT-GROUP, NOTIFICATION-GROUP
             FROM SNMPv2-CONF -- STD 58

     InetAddressType, InetAddress,
     InetAddressPrefixLength
             FROM INET-ADDRESS-MIB -- RFC 3291

     Float32TC
             FROM FLOAT-TC-MIB -- RFC 6340

     NeighborRouterIndex, nhdpInterfaceEntry,
     nhdpIibLinkSetEntry, nhdpIib2HopSetEntry,

```
        nhdpNibNeighborSetEntry, nhdpInterfacePerfEntry
                FROM NHDP-MIB -- RFC 6779
        ;


    manetOlsrv2MIB MODULE-IDENTITY
        LAST-UPDATED "201304291000Z"   -- 29 April 2013
        ORGANIZATION "IETF MANET Working Group"
        CONTACT-INFO
            "WG E-Mail: manet@ietf.org

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        DESCRIPTION
            "This OLSRv2-MIB module is applicable to routers
             implementing the Optimized Link State Routing Protocol
             version 2 (OLSRv2) defined in RFC XXXX.

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             identified as authors of the code.  All rights reserved.
```

          -- Revision History
          REVISION   "201304291000Z"   -- 29 April 2013
          DESCRIPTION
           "Initial version of this MIB module,
            published as RFC YYYY."

          -- RFC-Editor assigns ZZZZ (this comment can be removed)
          ::= { mib-2 ZZZZ }

 --
 -- TEXTUAL CONVENTIONS
 --

 Olsrv2Status ::= TEXTUAL-CONVENTION
    STATUS   current
    DESCRIPTION
       "An indication of the operability of the OLSRv2
        protocol on the device or a specific interface.
        For example, the status
        of an interface: 'enabled' indicates that
        it is performing OLSRv2 operation,
        and 'disabled' indicates that it is not."
    SYNTAX   INTEGER {
       enabled (1),
       disabled (2)
    }

 --
 -- Top-Level Object Identifier Assignments
 --

 olsrv2MIBNotifications OBJECT IDENTIFIER ::= { manetOlsrv2MIB 0 }
 olsrv2MIBObjects   OBJECT IDENTIFIER ::= { manetOlsrv2MIB 1 }
 olsrv2MIBConformance   OBJECT IDENTIFIER ::= { manetOlsrv2MIB 2 }

 --

```
  -- olsrv2ConfigurationGroup
  --

  --    Contains the OLSRv2 objects that configure specific
  --    options that determine the overall performance and operation
  --    of the OLSRv2 routing process.

  olsrv2ConfigurationGroup OBJECT IDENTIFIER ::= {olsrv2MIBObjects 1}


     olsrv2AdminStatus  OBJECT-TYPE
        SYNTAX      Olsrv2Status
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
           "The configured status of the OLSRv2 process
            on this device.  'enabled(1)' means that
            OLSRv2 is configured to run on this device.
            'disabled(2)' mean that the OLSRv2 process
            is configured off.

            Operation of the OLSRv2 routing protocol
            requires the operation of the Neighborhood
            Discovery Protocol (RFC 6130).  Hence, this
            object cannot have a status of 'enabled'
            unless at least one interface an the device
            is a MANET interface with NHDP enabled on that
            interface.  If all device interfaces running
            NHDP become disabled or removed, then the
            olsrv2AdminStatus MUST be set to 'disabled'.

            If the network manager sets this object to
            'disabled', then the associated interface specific
            objects, i.e., the olsrv2InterfaceAdminStatus
            objects must all be set to 'disabled'.

            This object is persistent and when written
            the entity SHOULD save the change to
            non-volatile storage."
        DEFVAL { disabled }
     ::= { olsrv2ConfigurationGroup 1 }

     olsrv2InterfaceTable  OBJECT-TYPE
        SYNTAX       SEQUENCE OF Olsrv2InterfaceEntry
        MAX-ACCESS  not-accessible
        STATUS       current
        DESCRIPTION
           "The olsrv2InterfaceTable describes the
```

OLSRv2 status on the NHDP interfaces of this router.
As such, this table AUGMENTS the nhdpInterfaceTable
defined in the NHDP-MIB (RFC 6779). NHDP interfaces
are explicitly defined by network manager servers
for interfaces on the device that are intended to
run MANET protocols. The olsrv2InterfaceTable
contains a single boolean object, the
olsrv2InterfaceAdminStatus object.

A conceptual row in this table exists if and only
if either a manager has explicitly created the row
in the nhdpInterfaceTable
or there is an interface on the managed device
that supports and runs NHDP.

If the corresponding entry with nhdpIfIndex value
is deleted from the nhdpInterfaceTable, then the entry
in this table is automatically deleted and
OLSRv2 is disabled on this interface,
and all configuration and state information
related to this interface is to be removed
from memory.

The olsrv2InterfaceAdminStatus can only be
'enabled' if the corresponding olsrv2AdminStatus
object is also set to 'enabled'."
    REFERENCE
       "RFC XXXX - The Optimized Link State Routing Protocol
        version 2, Clausen, T., Dearlove, C., Jacquet, P.
        and U. Herberg, March 2013."
    ::= { olsrv2ConfigurationGroup 2 }

olsrv2InterfaceEntry OBJECT-TYPE
    SYNTAX   Olsrv2InterfaceEntry
    MAX-ACCESS not-accessible
    STATUS   current
    DESCRIPTION
       "The olsrv2InterfaceEntry describes one OLSRv2
        local interface configuration as indexed by
        its nhdpIfIndex as defined in the
        NHDP-MIB (RFC 6779).

        The objects in this table are persistent and when
        written the device SHOULD save the change to
        non-volatile storage. For further information
        on the storage behavior for these objects, refer
        to the description for the nhdpIfRowStatus
        object in the NHDP-MIB (RFC6779)."

```
      REFERENCE
         "RFC 6779 - The Neighborhood Discovery Protocol MIB,
          Herberg, U., Cole, R.G. and I. Chakeres,
          October 2012"
      AUGMENTS { nhdpInterfaceEntry }
   ::= { olsrv2InterfaceTable 1 }


   Olsrv2InterfaceEntry ::=
      SEQUENCE {
         olsrv2InterfaceAdminStatus
            Olsrv2Status
      }


   olsrv2InterfaceAdminStatus OBJECT-TYPE
      SYNTAX      Olsrv2Status
      MAX-ACCESS  read-create
      STATUS      current
      DESCRIPTION
         "The OLSRv2 interface's administrative status.
          The value 'enabled' denotes that the interface
          is running the OLSRv2 routing process.
          The value 'disabled' denotes that the interface is
          external to the OLSRv2 routing process.

          The configuration objects for the OLSRv2 routing
          process, other than the administrative status objects,
          are common to all interfaces on this device.
          As such, the OLSRv2 configuration objects are globally
          defined for the device and are not contained within
          the olsrv2InterfaceTable."
      DEFVAL { disabled }
   ::= { olsrv2InterfaceEntry 1 }


   olsrv2OrigIpAddrType  OBJECT-TYPE
       SYNTAX      InetAddressType
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
         "The type of the olsrv2OrigIpAddr, as defined
          in the InetAddress MIB module (RFC 4001).

          Only the values 'ipv4(1)' and
          'ipv6(2)' are supported."
      REFERENCE
        "RFC XXXX - The Optimized Link State Routing Protocol
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
         and U. Herberg, March 2013."
   ::= { olsrv2ConfigurationGroup 3 }
```

     olsrv2OrigIpAddr OBJECT-TYPE
         SYNTAX   InetAddress (SIZE(4|16))
         MAX-ACCESS read-write
         STATUS   current
         DESCRIPTION
            "The router's originator address. An address that
             is unique (within the MANET) to this router.

             This object is persistent and when written
             the entity SHOULD save the change to
             non-volatile storage."
          REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
     ::= { olsrv2ConfigurationGroup 4 }

     --
     -- Local History Times
     --

     olsrv2OHoldTime OBJECT-TYPE
         SYNTAX   Unsigned32
         UNITS   "milliseconds"
         MAX-ACCESS read-write
         STATUS   current
         DESCRIPTION
            "olsrv2OHoldTime corresponds to
             O_HOLD_TIME of OLSRv2 and represents the
             time for which a recently used and replaced
             originator address is used to recognize the router's
             own messages.

             Guidance for setting this object may be found
             in Section 5 of the OLSRv2 specification (RFC XXXX),
             which indicates that:
                 o   olsrv2OHoldTime > 0

             This object is persistent and when written
             the entity SHOULD save the change to
             non-volatile storage."
         REFERENCE
            "Section 5 on Protocol Parameters.
             RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
         DEFVAL { 30000 }
     ::= { olsrv2ConfigurationGroup 5 }

```
      --
      -- Message intervals
      --

      olsrv2TcInterval  OBJECT-TYPE
         SYNTAX      Unsigned32
         UNITS       "milliseconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
            "olsrv2TcInterval corresponds to
            TC_INTERVAL of OLSRv2 and represents the
            maximum time between the transmission of
            two successive TC messages by this router.

            Guidance for setting this object may be found
            in Section 5 of the OLSRv2 specification (RFC XXXX),
            which indicates that:

                o olsrv2TcInterval > 0
                o olsrv2TcInterval >= olsrv2TcMinInterval

            This object is persistent and when written
            the entity SHOULD save the change to
            non-volatile storage."
         REFERENCE
            "Section 5 on Protocol Parameters.
             RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
         DEFVAL { 5000 }
      ::= { olsrv2ConfigurationGroup 6 }

      olsrv2TcMinInterval  OBJECT-TYPE
         SYNTAX      Unsigned32
         UNITS       "milliseconds"
         MAX-ACCESS  read-write
         STATUS      current
         DESCRIPTION
            "olsrv2TcMinInterval corresponds to
            TC_MIN_INTERVAL of OLSRv2 and represents
            the minimum interval between transmission of
            two successive TC messages by this router.

            Guidance for setting this object may be found
            in Section 5 of the OLSRv2 specification (RFC XXXX),
            which indicates that:
                o olsrv2TcInterval >= olsrv2TcMinInterval
```

               This object is persistent and when written
               the entity SHOULD save the change to
               non-volatile storage."
          REFERENCE
               "Section 5 on Protocol Parameters.
                RFC XXXX - The Optimized Link State Routing Protocol
                version 2, Clausen, T., Dearlove, C., Jacquet, P.
                and U. Herberg, March 2013."
          DEFVAL { 1250 }
       ::= { olsrv2ConfigurationGroup 7 }

       --
       -- Advertised information validity times
       --

       olsrv2THoldTime OBJECT-TYPE
          SYNTAX   Unsigned32
          UNITS   "milliseconds"
          MAX-ACCESS   read-write
          STATUS   current
          DESCRIPTION
               "olsrv2THoldTime corresponds to
               T_HOLD_TIME of OLSRv2 and is used as the
               minimum value in the TLV with
               Type = VALIDITY_TIME included in all
               TC messages sent by this router.

               Guidance for setting this object may be found
               in Section 5 of the OLSRv2 specification (RFC XXXX),
               which indicates that:
                   o olsrv2THoldTime >= olsrv2TcInterval
                   o If TC messages can be lost, then
                     olsrv2THoldTime should be
                     significantly greater than olsrv2TcInterval;
                     a value >= 3 x olsrv2TcInterval is recommended.

               olsrv2THoldTime MUST be representable by way of the
               exponent-mantissa notation as described in RFC 5497.

               This object is persistent and when written
               the entity SHOULD save the change to
               non-volatile storage."
          REFERENCE
               "Section 5 on Protocol Parameters.
                RFC XXXX - The Optimized Link State Routing Protocol
                version 2, Clausen, T., Dearlove, C., Jacquet, P.
                and U. Herberg, March 2013."

```
            DEFVAL { 15000 }
        ::= { olsrv2ConfigurationGroup 8 }


        olsrv2AHoldTime  OBJECT-TYPE
            SYNTAX       Unsigned32
            UNITS        "milliseconds"
            MAX-ACCESS   read-write
            STATUS       current
            DESCRIPTION
                "olsrv2AHoldTime corresponds to
                A_HOLD_TIME of OLSRv2 and represents
                the period during which TC messages are sent
                after they no longer have any advertised
                information to report, but are sent in order
                to accelerate outdated information removal by other routers.

                Guidance for setting this object may be found
                in Section 5 of the OLSRv2 specification (RFC XXXX),
                which indicates that:
                    o If TC messages can be lost, then
                      olsrv2AHoldTime should be
                      significantly greater than olsrv2TcInterval;
                      a value >= 3 x olsrv2TcInterval is
                      recommended.

                olsrv2AHoldTime MUST be representable by way
                of the exponent-mantissa notation as
                described in RFC 5497.

                This object is persistent and when written
                the entity SHOULD save the change to
                non-volatile storage."
            REFERENCE
                "Section 5 on Protocol Parameters.
                 RFC XXXX - The Optimized Link State Routing Protocol
                 version 2, Clausen, T., Dearlove, C., Jacquet, P.
                 and U. Herberg, March 2013."
            DEFVAL { 15000 }
        ::= { olsrv2ConfigurationGroup 9 }

        --
        -- Received message validity times
        --

        olsrv2RxHoldTime  OBJECT-TYPE
            SYNTAX       Unsigned32
            UNITS        "milliseconds"
            MAX-ACCESS   read-write
```

```
          STATUS       current
          DESCRIPTION
             "olsrv2RxHoldTime corresponds to
              RX_HOLD_TIME of OLSRv2 and represents the period
              after receipt of a message by the appropriate OLSRv2
              interface of this router for which that information
              is recorded, in order that the message is recognized
              as having been previously received on this OLSRv2
              interface.

              Guidance for setting this object may be found
              in Section 5 of the OLSRv2 specification (RFC XXXX),
              which indicates that:
                 o olsrv2RxHoldTime > 0
                 o This parameter should be greater
                   than the maximum difference in time that a
                   message may take to traverse the MANET,
                   taking into account any message forwarding
                   jitter as well as propagation, queuing,
                   and processing delays.

              This object is persistent and when written
              the entity SHOULD save the change to
              non-volatile storage."
          REFERENCE
             "Section 5 on Protocol Parameters.
              RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
          DEFVAL { 30000 }
       ::= { olsrv2ConfigurationGroup 10 }

       olsrv2PHoldTime  OBJECT-TYPE
          SYNTAX       Unsigned32
          UNITS        "milliseconds"
          MAX-ACCESS   read-write
          STATUS       current
          DESCRIPTION
             "olsrv2PHoldTime corresponds to
              P_HOLD_TIME of OLSRv2 and represents the period
              after receipt of a message that is processed by
              this router for which that information is recorded,
              in order that the message is not processed again
              if received again.

              Guidance for setting this object may be found
              in Section 5 of the OLSRv2 specification (RFC XXXX),
              which indicates that:
```

                o olsrv2PHoldTime > 0
                o This parameter should be greater
                  than the maximum difference in time that a
                  message may take to traverse the MANET,
                  taking into account any message forwarding
                  jitter as well as propagation, queuing,
                  and processing delays.

           This object is persistent and when written
           the entity SHOULD save the change to
           non-volatile storage."
       REFERENCE
          "Section 5 on Protocol Parameters.
           RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
       DEFVAL { 30000 }
     ::= { olsrv2ConfigurationGroup 11 }

     olsrv2FHoldTime OBJECT-TYPE
        SYNTAX   Unsigned32
        UNITS   "milliseconds"
        MAX-ACCESS   read-write
        STATUS   current
        DESCRIPTION
           "olsrv2FHoldTime corresponds to
            F_HOLD_TIME of OLSRv2 and represents the period
            after receipt of a message that is forwarded by this
            router for which that information is recorded, in order
            that the message is not forwarded again if received again.

            Guidance for setting this object may be found
            in Section 5 of the OLSRv2 specification (RFC XXXX),
            which indicates that:
                o olsrv2FHoldTime > 0
                o This parameter should be greater
                  than the maximum difference in time that a
                  message may take to traverse the MANET,
                  taking into account any message forwarding
                  jitter as well as propagation, queuing,
                  and processing delays.

            This parameter SHOULD be greater
            than the maximum difference in time that a
            message may take to traverse the MANET,
            taking into account any message forwarding
            jitter as well as propagation, queuing,
            and processing delays.

           This object is persistent and when written
           the entity SHOULD save the change to
           non-volatile storage."
        REFERENCE
           "Section 5 on Protocol Parameters.
            RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
        DEFVAL { 30000 }
     ::= { olsrv2ConfigurationGroup 12 }

     --
     -- Jitter times
     --

     olsrv2TpMaxJitter OBJECT-TYPE
        SYNTAX   Unsigned32
        UNITS   "milliseconds"
        MAX-ACCESS read-write
        STATUS   current
        DESCRIPTION
           "olsrv2TpMaxJitter corresponds to
            TP_MAXJITTER of OLSRv2 and represents the value
            of MAXJITTER used in RFC5148 for periodically
            generated TC messages sent by this router.

            For constraints on these parameters see RFC 5148.

            This object is persistent and when written
            the entity SHOULD save the change to
            non-volatile storage."
        REFERENCE
           "Section 5 on Protocol Parameters.
            RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
        DEFVAL { 500 }
     ::= { olsrv2ConfigurationGroup 13 }

     olsrv2TtMaxJitter OBJECT-TYPE
        SYNTAX   Unsigned32
        UNITS   "milliseconds"
        MAX-ACCESS read-write
        STATUS   current
        DESCRIPTION
           "olsrv2TtMaxJitter corresponds to
            TT_MAXJITTER of OLSRv2 and represents the value

          of MAXJITTER used in RFC5148 for externally
          triggered TC messages sent by this router.

          For constraints on these parameters see RFC 5148.

          This object is persistent and when written
          the entity SHOULD save the change to
          non-volatile storage."
      REFERENCE
          "Section 5 on Protocol Parameters.
           RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
      DEFVAL { 500 }
   ::= { olsrv2ConfigurationGroup 14 }

   olsrv2FMaxJitter OBJECT-TYPE
      SYNTAX   Unsigned32
      UNITS   "milliseconds"
      MAX-ACCESS read-write
      STATUS   current
      DESCRIPTION
          "olsrv2FMaxJitter corresponds to
           F_MAXJITTER of OLSRv2 and represents the
           default value of MAXJITTER used in RFC 5148 for
           messages forwarded by this router.

           For constraints on these parameters see RFC 5148.

           This object is persistent and when written
           the entity SHOULD save the change to
           non-volatile storage."
      REFERENCE
          "Section 5 on Protocol Parameters.
           RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
      DEFVAL { 500 }
   ::= { olsrv2ConfigurationGroup 15 }

   --
   -- Hop limits
   --

   olsrv2TcHopLimit OBJECT-TYPE
      SYNTAX   Unsigned32 (0..255)

```
            UNITS       "hops"
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
           "olsrv2TcHopLimit corresponds to
            TC_HOP_LIMIT of OLSRv2.

            Guidance for setting this object may be found
            in Section 5 of the OLSRv2 specification (RFC XXXX),
            which indicates that:
               o The maximum value of
                 olsrv2TcHopLimit >= the network diameter
                in hops, a value of 255 is recommended.
               o All values of olsrv2TcHopLimit >= 2.

            This object is persistent and when written
            the entity SHOULD save the change to
            non-volatile storage."
         REFERENCE
          "Section 5 on Protocol Parameters.
           RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
        DEFVAL { 255 }
     ::= { olsrv2ConfigurationGroup 16 }


     --
     -- Willingness
     --

     olsrv2WillRouting  OBJECT-TYPE
        SYNTAX      Unsigned32 (0..15)
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
           "olsrv2WillRouting corresponds to
            WILL_ROUTING of OLSRv2.

            Guidance for setting this object may be found
            in Section 5 of the OLSRv2 specification (RFC XXXX),
            which indicates that:
               o WILL_NEVER (0) <= olsrv2WillRouting <=
                               WILL_ALWAYS (15)

            This object is persistent and when written
            the entity SHOULD save the change to
            non-volatile storage."
```

```
      REFERENCE
         "Section 5 on Protocol Parameters.
          RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      DEFVAL { 7 }
   ::= { olsrv2ConfigurationGroup 17 }


   olsrv2WillFlooding     OBJECT-TYPE
      SYNTAX      Unsigned32 (0..15)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
         "olsrv2WillFlooding corresponds to
          WILL_FLOODING of OLSRv2.

          Guidance for setting this object may be found
          in Section 5 of the OLSRv2 specification (RFC XXXX),
          which indicates that:
             o WILL_NEVER (0) <= olsrv2WillFlooding <=
                              WILL_ALWAYS (15)

          This object is persistent and when written
          the entity SHOULD save the change to
          non-volatile storage."
      REFERENCE
         "Section 5 on Protocol Parameters.
          RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      DEFVAL { 7 }
   ::= { olsrv2ConfigurationGroup 18 }


   olsrv2LinkMetricType  OBJECT-TYPE
      SYNTAX      Unsigned32 (0..255)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
         "olsrv2LinkMetricType corresponds to
          LINK_METRIC_TYPE of OLSRv2.

          This object is persistent and when written
          the entity SHOULD save the change to
          non-volatile storage."
      REFERENCE
         "Section 5 on Protocol Parameters.
```

```
             RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
          DEFVAL { 0 }
       ::= { olsrv2ConfigurationGroup 19 }




  --
  -- olsrv2StateGroup
  --


  --
  -- Contains information describing the current state of
  -- the OLSRv2 process.
  --

  olsrv2StateGroup  OBJECT IDENTIFIER ::= { olsrv2MIBObjects 2 }

     --
     -- Interface Information Base (IIB)
     --


     --
     -- Link Set from RFC 6130, extended by L_in_metric,
     -- L_out_metric, and L_mpr_selector entries for each tuple
     --

     olsrv2IibLinkSetTable OBJECT-TYPE
        SYNTAX       SEQUENCE OF Olsrv2IibLinkSetEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
           "A Link Set of an interface records all links
            from other routers which are, or recently
            were, 1-hop neighbors."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2StateGroup 1 }

     olsrv2IibLinkSetEntry  OBJECT-TYPE
        SYNTAX      Olsrv2IibLinkSetEntry
        MAX-ACCESS  not-accessible
        STATUS      current
        DESCRIPTION
           "A Link Set consists of Link Tuples, each
```

```
        representing a single link indexed by the
        local and remote interface pair. Each Link Set
        from NHDP is extended by OLSRv2 by the following
        fields:

        (L_in_metric, L_out_metric, L_mpr_selector)"
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
   AUGMENTS { nhdpIibLinkSetEntry }
::= { olsrv2IibLinkSetTable 1 }

Olsrv2IibLinkSetEntry ::=
   SEQUENCE {
      olsrv2IibLinkSetInMetric
         Float32TC,
      olsrv2IibLinkSetOutMetric
         Float32TC,
      olsrv2IibLinkSetMprSelector
         TruthValue
   }

olsrv2IibLinkSetInMetric  OBJECT-TYPE
   SYNTAX      Float32TC
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "olsrv2IibLinkSetInMetric is the metric of the link
       from the OLSRv2 interface with addresses
       L_neighbor_iface_addr_list to this OLSRv2 interface."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2IibLinkSetEntry 1 }

olsrv2IibLinkSetOutMetric  OBJECT-TYPE
   SYNTAX      Float32TC
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "olsrv2IibLinkSetInMetric is the metric of the
       link to the OLSRv2 interface with addresses
       L_neighbor_iface_addr_list from this OLSRv2 interface."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
```

```
            and U. Herberg, March 2013."
     ::= { olsrv2IibLinkSetEntry 2 }


     olsrv2IibLinkSetMprSelector  OBJECT-TYPE
        SYNTAX       TruthValue
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
           "olsrv2IibLinkSetMprSelector is a boolean flag,
            describing if this neighbor has selected this router
            as a flooding MPR, i.e., is a flooding MPR selector
            of this router."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2IibLinkSetEntry 3 }


     --
     -- 2-Hop Set; from RFC 6130, extended by OLSRv2 by the
     -- following fields: N2_in_metric, N2_out_metric
     --

     olsrv2Iib2HopSetTable OBJECT-TYPE
        SYNTAX       SEQUENCE OF Olsrv2Iib2HopSetEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
           "A 2-Hop Set of an interface records network
            addresses of symmetric 2-hop neighbors, and
            the symmetric links to symmetric 1-hop neighbors
            through which these symmetric 2-hop neighbors
            can be reached.  It consists of 2-Hop Tuples."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2StateGroup 2 }


     olsrv2Iib2HopSetEntry  OBJECT-TYPE
        SYNTAX       Olsrv2Iib2HopSetEntry
        MAX-ACCESS   not-accessible
        STATUS       current
        DESCRIPTION
           "olsrv2Iib2HopSetTable consists of 2-Hop Tuples,
            each representing a single network address of
            a symmetric 2-hop neighbor, and a single MANET
            interface of a symmetric 1-hop neighbor.
```

```
        Each 2-Hop Set from NHDP is extended by
        OLSRv2 by the following fields:

        (N2_in_metric, N2_out_metric)"
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
   AUGMENTS { nhdpIib2HopSetEntry }
::= { olsrv2Iib2HopSetTable 1 }

Olsrv2Iib2HopSetEntry ::=
   SEQUENCE {
      olsrv2Iib2HopSetInMetric
         Float32TC,
      olsrv2Iib2HopSetOutMetric
         Float32TC
   }

olsrv2Iib2HopSetInMetric  OBJECT-TYPE
   SYNTAX      Float32TC
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "olsrv2Iib2HopSetInMetric is the neighbor metric
       from the router with address N2_2hop_iface_addr
       to the router with OLSRv2 interface addresses
       N2_neighbor_iface_addr_list."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2Iib2HopSetEntry 1 }

olsrv2Iib2HopSetOutMetric  OBJECT-TYPE
   SYNTAX      Float32TC
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "olsrv2Iib2HopSetN2Time is the neighbor metric
       to the router with address N2_2hop_iface_addr
       from the router with OLSRv2 interface addresses
       N2_neighbor_iface_addr_list."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2Iib2HopSetEntry 2 }
```

```
        --
        -- Local Information Base  - as defined in RFC 6130,
        -- extended by the addition of an Originator Set,
        -- defined in Section 6.1 and a Local Attached
        -- Network Set, defined in Section 6.2.
        --


        --
        -- Originator Set
        --

        olsrv2LibOrigSetTable OBJECT-TYPE
           SYNTAX      SEQUENCE OF Olsrv2LibOrigSetEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
              "A router's Originator Set records addresses
               that were recently used as originator addresses
               by this router."
            REFERENCE
              "RFC XXXX - The Optimized Link State Routing Protocol
               version 2, Clausen, T., Dearlove, C., Jacquet, P.
               and U. Herberg, March 2013."
        ::= { olsrv2StateGroup 3 }

        olsrv2LibOrigSetEntry  OBJECT-TYPE
           SYNTAX      Olsrv2LibOrigSetEntry
           MAX-ACCESS  not-accessible
           STATUS      current
           DESCRIPTION
              "A router's Originator Set consists of
               Originator Tuples:

               (O_orig_addr, O_time)"
           REFERENCE
              "RFC XXXX - The Optimized Link State Routing Protocol
               version 2, Clausen, T., Dearlove, C., Jacquet, P.
               and U. Herberg, March 2013."
           INDEX { olsrv2LibOrigSetIndex }
        ::= { olsrv2LibOrigSetTable 1 }

        Olsrv2LibOrigSetEntry ::=
           SEQUENCE {
              olsrv2LibOrigSetIndex
                 Integer32,
              olsrv2LibOrigSetIpAddrType
                 InetAddressType,
              olsrv2LibOrigSetIpAddr
```

```
            InetAddress,
         olsrv2LibOrigSetExpireTime
            TimeStamp
      }

   olsrv2LibOrigSetIndex  OBJECT-TYPE
      SYNTAX      Integer32 (0..65535)
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
         "The index for this table."
   ::= { olsrv2LibOrigSetEntry 1 }

   olsrv2LibOrigSetIpAddrType  OBJECT-TYPE
      SYNTAX      InetAddressType
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "The type of the olsrv2LibOrigSetIpAddr,
          as defined in the InetAddress MIB (RFC4001).

          Only the values 'ipv4(1)' and
          'ipv6(2)' are supported."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2LibOrigSetEntry 2 }

   olsrv2LibOrigSetIpAddr  OBJECT-TYPE
      SYNTAX      InetAddress (SIZE(4|16))
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A recently used originator address
          by this router."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2LibOrigSetEntry 3 }

   olsrv2LibOrigSetExpireTime  OBJECT-TYPE
      SYNTAX      TimeStamp
      UNITS       "milliseconds"
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
```

            "olsrv2LibOrigSetExpireTime specifies the value
             of sysUptime when this entry should expire and be
             removed from the olsrv2LibOrigSetTable."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2LibOrigSetEntry 4 }

      --
      -- Local Attached Network Set
      --

      olsrv2LibLocAttNetSetTable OBJECT-TYPE
         SYNTAX   SEQUENCE OF Olsrv2LibLocAttNetSetEntry
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "A router's Local Attached Network Set records
             its local non-OLSRv2 interfaces via which it
             can act as gateways to other networks."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2StateGroup 4 }

      olsrv2LibLocAttNetSetEntry OBJECT-TYPE
         SYNTAX   Olsrv2LibLocAttNetSetEntry
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "The entries include the Local Attached
             Network Tuples:

             (AL_net_addr, AL_dist, AL_metric)

             where:

                AL_net_addr is the network address
                of an attached network which can
                be reached via this router.

                AL_dist is the number of hops to
                the network with address AL_net_addr
                from this router.

```
              AL_metric is the metric of the link to
              the attached network with address
              AL_net_addr from this router."
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
          INDEX { olsrv2LibLocAttNetSetIndex }
      ::= { olsrv2LibLocAttNetSetTable 1 }

      Olsrv2LibLocAttNetSetEntry ::=
          SEQUENCE {
             olsrv2LibLocAttNetSetIndex
                Integer32,
             olsrv2LibLocAttNetSetIpAddrType
                InetAddressType,
             olsrv2LibLocAttNetSetIpAddr
                InetAddress,
             olsrv2LibLocAttNetSetIpAddrPrefixLen
                InetAddressPrefixLength,
             olsrv2LibLocAttNetSetDistance
                Unsigned32,
             olsrv2LibLocAttNetSetMetric
                Float32TC
          }

      olsrv2LibLocAttNetSetIndex  OBJECT-TYPE
          SYNTAX      Integer32 (0..65535)
          MAX-ACCESS  not-accessible
          STATUS      current
          DESCRIPTION
             "The index for this table."
      ::= { olsrv2LibLocAttNetSetEntry 1 }

      olsrv2LibLocAttNetSetIpAddrType  OBJECT-TYPE
          SYNTAX      InetAddressType
          MAX-ACCESS  read-only
          STATUS      current
          DESCRIPTION
             "The type of the olsrv2LibLocAttNetSetIpAddr, as defined
              in the InetAddress MIB (RFC 4001).

              Only the values 'ipv4(1)' and
              'ipv6(2)' are supported."
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
```

```
     ::= { olsrv2LibLocAttNetSetEntry 2 }


     olsrv2LibLocAttNetSetIpAddr  OBJECT-TYPE
        SYNTAX      InetAddress (SIZE(4|16))
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "This is the network address of an attached
            network which can be reached via this router."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2LibLocAttNetSetEntry 3 }


     olsrv2LibLocAttNetSetIpAddrPrefixLen  OBJECT-TYPE
        SYNTAX      InetAddressPrefixLength
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "Indicates the number of leading one bits that form the
            mask to be logically ANDed with the destination address
            before being compared to the value in the
            olsrv2LibLocAttNetSetIpAddr field."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2LibLocAttNetSetEntry 4 }


     olsrv2LibLocAttNetSetDistance  OBJECT-TYPE
        SYNTAX      Unsigned32 (1..255)
        UNITS       "hops"
        MAX-ACCESS  read-only
        STATUS      current
        DESCRIPTION
           "This object specifies the number of hops
            to the network with address
            olsrv2LibLocAttNetSetIpAddr from this router."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2LibLocAttNetSetEntry 5 }


     olsrv2LibLocAttNetSetMetric  OBJECT-TYPE
        SYNTAX      Float32TC
        MAX-ACCESS  read-only
```

```
      STATUS       current
      DESCRIPTION
         "This object specifies the metric of the
          link to the attached network with
          address AL_net_addr from this router."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2LibLocAttNetSetEntry 6 }


   --
   -- Neighbor Information Base  - as defined in RFC 6130,
   -- extended by OLSRv2 by the addition of the following
   -- elements to each Neighbor Tuple
   --


   --
   -- Neighbor Set
   --


   olsrv2NibNeighborSetTable OBJECT-TYPE
      SYNTAX       SEQUENCE OF Olsrv2NibNeighborSetEntry
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
         "A router's Neighbor Set records all network
          addresses of each 1-hop neighbor. It consists
          of Neighbor Tuples, each representing a single
          1-hop neighbor. "
       REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
    ::= { olsrv2StateGroup 5 }

    olsrv2NibNeighborSetEntry  OBJECT-TYPE
      SYNTAX       Olsrv2NibNeighborSetEntry
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
         "Each Neighbor Tuple in the Neighbor Set, defined
          in RFC 6130, has these additional elements:
             N_orig_addr
             N_in_metric
             N_out_metric
             N_will_flooding
```

```
                N_will_routing
                N_flooding_mpr
                N_routing_mpr
                N_mpr_selector
                N_advertised
              defined here as extensions."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
        AUGMENTS { nhdpNibNeighborSetEntry }
    ::= { olsrv2NibNeighborSetTable 1 }

    Olsrv2NibNeighborSetEntry ::=
        SEQUENCE {
           olsrv2NibNeighborSetNOrigIpAddrType
              InetAddressType,
           olsrv2NibNeighborSetNOrigIpAddr
              InetAddress,
           olsrv2NibNeighborSetNInMetric
              Float32TC,
           olsrv2NibNeighborSetNOutMetric
              Float32TC,
           olsrv2NibNeighborSetNWillFlooding
              Unsigned32,
           olsrv2NibNeighborSetNWillRouting
              Unsigned32,
           olsrv2NibNeighborSetNFloodingMpr
              TruthValue,
           olsrv2NibNeighborSetNRoutingMpr
              TruthValue,
           olsrv2NibNeighborSetNMprSelector
              TruthValue,
           olsrv2NibNeighborSetNAdvertised
              TruthValue
        }

    olsrv2NibNeighborSetNOrigIpAddrType  OBJECT-TYPE
        SYNTAX       InetAddressType
        MAX-ACCESS   read-only
        STATUS       current
        DESCRIPTION
           "The type of the olsrv2NibNeighborSetNOrigIpAddr, as defined
            in the InetAddress MIB module (RFC4001).

            Only the values 'ipv4(1)' and
            'ipv6(2)' are supported."
        REFERENCE
```

```
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
  ::= { olsrv2NibNeighborSetEntry 1 }

  olsrv2NibNeighborSetNOrigIpAddr  OBJECT-TYPE
     SYNTAX      InetAddress (SIZE(4|16))
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
        "This is the originator IP address of that
         neighbor."
     REFERENCE
        "RFC XXXX - The Optimized Link State Routing Protocol
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
         and U. Herberg, March 2013."
  ::= { olsrv2NibNeighborSetEntry 2 }

  olsrv2NibNeighborSetNInMetric  OBJECT-TYPE
     SYNTAX      Float32TC
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
        "This object is the neighbor metric of any
         link from this neighbor to an OLSRv2 interface
         of this router, i.e., the minimum of all corresponding
         L_in_metric with L_status = SYMMETRIC and
         L_in_metric != UNKNOWN_METRIC, UNKNOWN_METRIC
         if there are no such Link Tuples."
     REFERENCE
        "RFC XXXX - The Optimized Link State Routing Protocol
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
         and U. Herberg, March 2013."
  ::= { olsrv2NibNeighborSetEntry 3 }

  olsrv2NibNeighborSetNOutMetric  OBJECT-TYPE
     SYNTAX      Float32TC
     MAX-ACCESS  read-only
     STATUS      current
     DESCRIPTION
        "This object is is the neighbor metric of any
         link from an OLSRv2 interface of this router
         to this neighbor, i.e., the minimum of
         all corresponding L_out_metric with
         L_status = SYMMETRIC and
         L_out_metric != UNKNOWN_METRIC, UNKNOWN_METRIC
         if there are no such Link Tuples."
     REFERENCE
```

```
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
      ::= { olsrv2NibNeighborSetEntry 4 }


      olsrv2NibNeighborSetNWillFlooding  OBJECT-TYPE
         SYNTAX      Unsigned32 (0..15)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
            "This object is the neighbor's willingness to be
             selected as a flooding MPR, in the range from
             WILL_NEVER to WILL_ALWAYS, both inclusive, taking
             the value WILL_NEVER if no OLSRv2 specific
             information is received from this neighbor."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2NibNeighborSetEntry 5 }


      olsrv2NibNeighborSetNWillRouting  OBJECT-TYPE
         SYNTAX      Unsigned32 (0..15)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
            "This object is the neighbor's willingness to be
             selected as a routing MPR, in the range from
             WILL_NEVER to WILL_ALWAYS, both inclusive, taking
             the value WILL_NEVER if no OLSRv2 specific
             information is received from this neighbor."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2NibNeighborSetEntry 6 }


      olsrv2NibNeighborSetNFloodingMpr  OBJECT-TYPE
         SYNTAX      TruthValue
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
            "This object is a boolean flag, describing if
             this neighbor is selected as a flooding MPR
             by this router."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
```

```
        and U. Herberg, March 2013."
    ::= { olsrv2NibNeighborSetEntry 7 }

    olsrv2NibNeighborSetNRoutingMpr  OBJECT-TYPE
       SYNTAX       TruthValue
       MAX-ACCESS   read-only
       STATUS       current
       DESCRIPTION
          "This object is a boolean flag, describing if
           this neighbor is selected as a routing MPR
           by this router."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2NibNeighborSetEntry 8 }

    olsrv2NibNeighborSetNMprSelector  OBJECT-TYPE
       SYNTAX       TruthValue
       MAX-ACCESS   read-only
       STATUS       current
       DESCRIPTION
          "This object is a boolean flag,
           describing if this neighbor has selected this router
           as a routing MPR, i.e., is a routing MPR
           selector of this router.

           When set to 'true', then this router is selected as
           a routing MPR by the neighbor router.
           When set to 'false',
           then this router is not selected by the neighbor
           as a routing MPR."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2NibNeighborSetEntry 9 }

    olsrv2NibNeighborSetNAdvertised  OBJECT-TYPE
       SYNTAX       TruthValue
       MAX-ACCESS   read-only
       STATUS       current
       DESCRIPTION
          "This object, N_mpr_selector, is a boolean flag, describing if
           this router has elected to advertise a link to this neighbor
           in its TC messages."
        REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
```

```
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
         and U. Herberg, March 2013."
   ::= { olsrv2NibNeighborSetEntry 10 }



   olsrv2NibNeighborSetTableAnsn OBJECT-TYPE
      SYNTAX      Unsigned32 (0..65535)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "Advertised Neighbor Sequence Number (ANSN), is
          a variable, whose value is included in TC messages to
          indicate the freshness of the information transmitted."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2StateGroup 6 }



   --
   -- Topology Information Base - this Information
   -- Base is specific to OLSRv2, and is defined in
   -- Section 10 of RFC XXXX.
   --


   --
   -- Advertising Remote Router Set
   --

   olsrv2TibAdRemoteRouterSetTable OBJECT-TYPE
      SYNTAX      SEQUENCE OF Olsrv2TibAdRemoteRouterSetEntry
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
         "A router's Advertising Remote Router Set records
          information describing each remote router in the
          network that transmits TC messages."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2StateGroup 7 }

   olsrv2TibAdRemoteRouterSetEntry  OBJECT-TYPE
      SYNTAX      Olsrv2TibAdRemoteRouterSetEntry
      MAX-ACCESS  not-accessible
      STATUS      current
```

```
      DESCRIPTION
         "A router's Advertised Neighbor Set Table entry
          consists of Advertising Remote Router Tuples:

          (AR_orig_addr, AR_seq_number, AR_time)

          Addresses associated with this router are
          found in the NHDP-MIB module's nhdpDiscIfSetTable."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      INDEX { olsrv2TibAdRemoteRouterSetRouterId }
   ::= { olsrv2TibAdRemoteRouterSetTable 1 }

   Olsrv2TibAdRemoteRouterSetEntry ::=
      SEQUENCE {
         olsrv2TibAdRemoteRouterSetIpAddrType
            InetAddressType,
         olsrv2TibAdRemoteRouterSetIpAddr
            InetAddress,
         olsrv2TibAdRemoteRouterSetRouterId
            NeighborRouterIndex,
         olsrv2TibAdRemoteRouterSetMaxSeqNo
            Unsigned32,
         olsrv2TibAdRemoteRouterSetExpireTime
            TimeStamp
      }

   olsrv2TibAdRemoteRouterSetIpAddrType  OBJECT-TYPE
      SYNTAX       InetAddressType
      MAX-ACCESS   read-only
      STATUS       current
      DESCRIPTION
         "The type of the olsrv2TibAdRemoteRouterSetIpAddr,
          as defined in the InetAddress MIB module (RFC4001).

          Only the values 'ipv4(1)' and
          'ipv6(2)' are supported."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      ::= { olsrv2TibAdRemoteRouterSetEntry 1 }

   olsrv2TibAdRemoteRouterSetIpAddr  OBJECT-TYPE
      SYNTAX       InetAddress (SIZE(4|16))
      MAX-ACCESS   read-only
```

```
         STATUS      current
         DESCRIPTION
            "This is the originator address of a received
             TC message."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibAdRemoteRouterSetEntry 2 }


      olsrv2TibAdRemoteRouterSetRouterId  OBJECT-TYPE
         SYNTAX      NeighborRouterIndex
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
            "This object is an additional index for each
             Remote Router's IfAddr associated with the
             olsrv2TibAdRemoteRouterSetIpAddr."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibAdRemoteRouterSetEntry 3 }


      olsrv2TibAdRemoteRouterSetMaxSeqNo  OBJECT-TYPE
         SYNTAX      Unsigned32 (0..65535)
         MAX-ACCESS  read-only
         STATUS      current
         DESCRIPTION
            "This is the greatest ANSN in any TC message
             received which originated from the router
             with originator address
             olsrv2TibAdRemoteRouterSetIpAddr."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibAdRemoteRouterSetEntry 4 }


      olsrv2TibAdRemoteRouterSetExpireTime  OBJECT-TYPE
         SYNTAX      TimeStamp
         UNITS       "milliseconds"
         MAX-ACCESS  not-accessible
         STATUS      current
         DESCRIPTION
            "olsrv2TibAdRemoteRouterSetExpireTime specifies the value
             of sysUptime when this entry should expire and be
             removed from the olsrv2TibAdRemoteRouterSetTable."
```

```
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
      ::= { olsrv2TibAdRemoteRouterSetEntry 5 }




      --
      -- Router Topology Set
      --

      olsrv2TibRouterTopologySetTable OBJECT-TYPE
         SYNTAX       SEQUENCE OF Olsrv2TibTopologySetEntry
         MAX-ACCESS   not-accessible
         STATUS       current
         DESCRIPTION
             "A router's Router Topology Set records topology
              information about the network."
         REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
      ::= { olsrv2StateGroup 8 }

      olsrv2TibRouterTopologySetEntry  OBJECT-TYPE
         SYNTAX       Olsrv2TibTopologySetEntry
         MAX-ACCESS   not-accessible
         STATUS       current
         DESCRIPTION
             "It consists of Router Topology Tuples:

              (TR_from_orig_addr, TR_to_orig_addr,
               TR_seq_number, TR_metric, TR_time)"
         REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
         INDEX { olsrv2TibRouterTopologySetIndex }
      ::= { olsrv2TibRouterTopologySetTable 1 }

      Olsrv2TibTopologySetEntry ::=
         SEQUENCE {
            olsrv2TibRouterTopologySetIndex
               Integer32,
            olsrv2TibRouterTopologySetFromOrigIpAddrType
               InetAddressType,
            olsrv2TibRouterTopologySetFromOrigIpAddr
```

```
            InetAddress,
        olsrv2TibRouterTopologySetToOrigIpAddrType
            InetAddressType,
        olsrv2TibRouterTopologySetToOrigIpAddr
            InetAddress,
        olsrv2TibRouterTopologySetSeqNo
            Unsigned32,
        olsrv2TibRouterTopologySetMetric
            Float32TC,
        olsrv2TibRouterTopologySetExpireTime
            TimeStamp
    }

olsrv2TibRouterTopologySetIndex  OBJECT-TYPE
    SYNTAX      Integer32 (0..16777215)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The index for this table."
::= { olsrv2TibRouterTopologySetEntry 1 }

olsrv2TibRouterTopologySetFromOrigIpAddrType  OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The type of the olsrv2TibRouterTopologySetFromOrigIpAddr,
         as defined in the InetAddress MIB module (RFC4001).

         Only the values 'ipv4(1)' and
         'ipv6(2)' are supported."
    REFERENCE
        "RFC XXXX - The Optimized Link State Routing Protocol
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
         and U. Herberg, March 2013."
::= { olsrv2TibRouterTopologySetEntry 2 }

olsrv2TibRouterTopologySetFromOrigIpAddr  OBJECT-TYPE
    SYNTAX      InetAddress (SIZE(4|16))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This is the originator address of a router which can
         reach the router with originator address TR_to_orig_addr
         in one hop."
    REFERENCE
        "RFC XXXX - The Optimized Link State Routing Protocol
         version 2, Clausen, T., Dearlove, C., Jacquet, P.
```

            and U. Herberg, March 2013."
        ::= { olsrv2TibRouterTopologySetEntry 3 }

        olsrv2TibRouterTopologySetToOrigIpAddrType OBJECT-TYPE
            SYNTAX   InetAddressType
            MAX-ACCESS read-only
            STATUS   current
            DESCRIPTION
                "The type of the olsrv2TibRouterTopologySetToOrigIpAddr,
                 as defined in the InetAddress MIB module (RFC4001).

                 Only the values 'ipv4(1)' and
                 'ipv6(2)' are supported."
            REFERENCE
                "RFC XXXX - The Optimized Link State Routing Protocol
                 version 2, Clausen, T., Dearlove, C., Jacquet, P.
                 and U. Herberg, March 2013."
        ::= { olsrv2TibRouterTopologySetEntry 4 }

        olsrv2TibRouterTopologySetToOrigIpAddr OBJECT-TYPE
            SYNTAX   InetAddress (SIZE(4|16))
            MAX-ACCESS read-only
            STATUS   current
            DESCRIPTION
                "This is the originator address of a router which can be
                 reached by the router with originator address
                 TR_to_orig_addr in one hop."
            REFERENCE
                "RFC XXXX - The Optimized Link State Routing Protocol
                 version 2, Clausen, T., Dearlove, C., Jacquet, P.
                 and U. Herberg, March 2013."
        ::= { olsrv2TibRouterTopologySetEntry 5 }

        olsrv2TibRouterTopologySetSeqNo OBJECT-TYPE
            SYNTAX   Unsigned32 (0..65535)
            MAX-ACCESS read-only
            STATUS   current
            DESCRIPTION
                "This is the greatest ANSN in any TC message
                 received which originated from the router
                 with originator address TR_from_orig_addr
                 (i.e., which contributed to the information
                 contained in this Tuple)."
            REFERENCE
                "RFC XXXX - The Optimized Link State Routing Protocol
                 version 2, Clausen, T., Dearlove, C., Jacquet, P.
                 and U. Herberg, March 2013."
        ::= { olsrv2TibRouterTopologySetEntry 6 }

     olsrv2TibRouterTopologySetMetric OBJECT-TYPE
        SYNTAX   Float32TC
        MAX-ACCESS read-only
        STATUS   current
        DESCRIPTION
           "This is the neighbor metric from the router
            with originator address TR_from_orig_addr to
            the router with originator address
            TR_to_orig_addr."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2TibRouterTopologySetEntry 7 }

     olsrv2TibRouterTopologySetExpireTime OBJECT-TYPE
        SYNTAX   TimeStamp
        UNITS   "milliseconds"
        MAX-ACCESS not-accessible
        STATUS   current
        DESCRIPTION
           "olsrv2TibRouterTopologySetExpireTime specifies the value
            of sysUptime when this entry should expire and be
            removed from the olsrv2TibRouterTopologySetTable."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2TibRouterTopologySetEntry 8 }

     --
     -- Routable Address Topology Set
     --

     olsrv2TibRoutableAddressTopologySetTable OBJECT-TYPE
        SYNTAX   SEQUENCE OF Olsrv2TibRoutableAddressTopologySetEntry
        MAX-ACCESS not-accessible
        STATUS   current
        DESCRIPTION
           "A router's Routable Address Topology Set records topology
            information about the routable addresses within the MANET,
            and via which routers they may be reached."
        REFERENCE
           "RFC XXXX - The Optimized Link State Routing Protocol
            version 2, Clausen, T., Dearlove, C., Jacquet, P.
            and U. Herberg, March 2013."
     ::= { olsrv2StateGroup 9 }

      olsrv2TibRoutableAddressTopologySetEntry OBJECT-TYPE
         SYNTAX   Olsrv2TibRoutableAddressTopologySetEntry
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "It consists of Router Topology Tuples:

             (TA_from_orig_addr, TA_dest_addr,
              TA_seq_number, TA_metric, TA_time)"
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
         INDEX { olsrv2TibRoutableAddressTopologySetIndex }
      ::= { olsrv2TibRoutableAddressTopologySetTable 1 }

       Olsrv2TibRoutableAddressTopologySetEntry ::=
          SEQUENCE {
             olsrv2TibRoutableAddressTopologySetIndex
               Integer32,
             olsrv2TibRoutableAddressTopologySetFromOrigIpAddrType
               InetAddressType,
             olsrv2TibRoutableAddressTopologySetFromOrigIpAddr
               InetAddress,
             olsrv2TibRoutableAddressTopologySetDestIpAddrType
               InetAddressType,
             olsrv2TibRoutableAddressTopologySetDestIpAddr
               InetAddress,
             olsrv2TibRoutableAddressTopologySetSeqNo
               Unsigned32,
             olsrv2TibRoutableAddressTopologySetMetric
               Float32TC,
             olsrv2TibRoutableAddressTopologySetExpireTime
               TimeStamp
          }

      olsrv2TibRoutableAddressTopologySetIndex OBJECT-TYPE
         SYNTAX   Integer32 (0..16777215)
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "The index for this table."
      ::= { olsrv2TibRoutableAddressTopologySetEntry 1 }

      olsrv2TibRoutableAddressTopologySetFromOrigIpAddrType OBJECT-TYPE
         SYNTAX   InetAddressType
         MAX-ACCESS read-only
         STATUS   current

         DESCRIPTION
            "The type of the
             olsrv2TibRoutableAddressTopologySetFromOrigIpAddr,
             as defined in the InetAddress MIB module (RFC 4001).

             Only the values 'ipv4(1)' and
             'ipv6(2)' are supported."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
       ::= { olsrv2TibRoutableAddressTopologySetEntry 2 }

       olsrv2TibRoutableAddressTopologySetFromOrigIpAddr OBJECT-TYPE
         SYNTAX   InetAddress (SIZE(4|16))
         MAX-ACCESS read-only
         STATUS   current
         DESCRIPTION
            "This is the originator address of a router which can
             reach the router with routable address TA_dest_addr
             in one hop."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
       ::= { olsrv2TibRoutableAddressTopologySetEntry 3 }

       olsrv2TibRoutableAddressTopologySetDestIpAddrType OBJECT-TYPE
         SYNTAX   InetAddressType
         MAX-ACCESS read-only
         STATUS   current
         DESCRIPTION
            "The type of the olsrv2TibRouterTopologySetToOrigIpAddr,
             as defined in the InetAddress MIB module (RFC 4001).

             Only the values 'ipv4(1)' and
             'ipv6(2)' are supported."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
       ::= { olsrv2TibRoutableAddressTopologySetEntry 4 }

       olsrv2TibRoutableAddressTopologySetDestIpAddr OBJECT-TYPE
         SYNTAX   InetAddress (SIZE(4|16))
         MAX-ACCESS read-only
         STATUS   current
         DESCRIPTION

```
      "This is a routable address of a router which can be
       reached by the router with originator address
       TA_from_orig_addr in one hop."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2TibRoutableAddressTopologySetEntry 5 }

olsrv2TibRoutableAddressTopologySetSeqNo  OBJECT-TYPE
   SYNTAX      Unsigned32 (0..65535)
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "This is the greatest ANSN in any TC message
       received which originated from the router
       with originator address TA_from_orig_addr
       (i.e., which contributed to the information
       contained in this Tuple)."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2TibRoutableAddressTopologySetEntry 6 }

olsrv2TibRoutableAddressTopologySetMetric  OBJECT-TYPE
   SYNTAX      Float32TC
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "This is the neighbor metric from the router
       with originator address TA_from_orig_addr to the
       router with OLSRv2 interface address TA_dest_addr."
   REFERENCE
      "RFC XXXX - The Optimized Link State Routing Protocol
       version 2, Clausen, T., Dearlove, C., Jacquet, P.
       and U. Herberg, March 2013."
::= { olsrv2TibRoutableAddressTopologySetEntry 7 }

olsrv2TibRoutableAddressTopologySetExpireTime  OBJECT-TYPE
   SYNTAX      TimeStamp
   UNITS       "milliseconds"
   MAX-ACCESS  read-only
   STATUS      current
   DESCRIPTION
      "olsrv2TibRoutableAddressTopologySetExpireTime
       specifies the value of sysUptime when this entry
       should expire and be removed from the
```

```
         olsrv2TibRoutableAddressTopologySetTable."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibRoutableAddressTopologySetEntry 8 }



   --
   -- Attached Network Set
   --

   olsrv2TibAttNetworksSetTable OBJECT-TYPE
      SYNTAX      SEQUENCE OF Olsrv2TibAttNetworksSetEntry
      MAX-ACCESS   not-accessible
      STATUS       current
      DESCRIPTION
         "A router's Attached Network Set records information
          about networks (which may be outside the MANET)
          attached to other routers and their routable addresses."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2StateGroup 10 }

   olsrv2TibAttNetworksSetEntry  OBJECT-TYPE
      SYNTAX      Olsrv2TibAttNetworksSetEntry
      MAX-ACCESS  not-accessible
      STATUS       current
      DESCRIPTION
         "It consists of Attached Network Tuples:

          (AN_orig_addr, AN_net_addr, AN_seq_number,
           AN_dist, AN_metric, AN_time)"
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      INDEX { olsrv2TibAttNetworksSetIndex }
   ::= { olsrv2TibAttNetworksSetTable 1 }

   Olsrv2TibAttNetworksSetEntry ::=
      SEQUENCE {
         olsrv2TibAttNetworksSetIndex
             Integer32,
         olsrv2TibAttNetworksSetOrigIpAddrType
             InetAddressType,
```

          olsrv2TibAttNetworksSetOrigIpAddr
             InetAddress,
          olsrv2TibAttNetworksSetNetIpAddrType
             InetAddressType,
          olsrv2TibAttNetworksSetNetIpAddr
             InetAddress,
          olsrv2TibAttNetworksSetNetIpAddrPrefixLen
             InetAddressPrefixLength,
          olsrv2TibAttNetworksSetSeqNo
             Unsigned32,
          olsrv2TibAttNetworksSetDist
             Unsigned32,
          olsrv2TibAttNetworksSetMetric
             Float32TC,
          olsrv2TibAttNetworksSetExpireTime
             TimeStamp
       }

   olsrv2TibAttNetworksSetIndex OBJECT-TYPE
      SYNTAX   Integer32 (0..16777215)
      MAX-ACCESS not-accessible
      STATUS   current
      DESCRIPTION
         "The index for this table."
   ::= { olsrv2TibAttNetworksSetEntry 1 }

   olsrv2TibAttNetworksSetOrigIpAddrType OBJECT-TYPE
      SYNTAX   InetAddressType
      MAX-ACCESS read-only
      STATUS   current
      DESCRIPTION
         "The type of the olsrv2TibAttNetworksSetOrigIpAddr,
          as defined in the InetAddress MIB module (RFC4001).

          Only the values 'ipv4(1)' and
          'ipv6(2)' are supported."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibAttNetworksSetEntry 2 }

   olsrv2TibAttNetworksSetOrigIpAddr OBJECT-TYPE
      SYNTAX   InetAddress (SIZE(4|16))
      MAX-ACCESS read-only
      STATUS   current
      DESCRIPTION

            "This is the originator address of a
             router which can act as gateway to the
             network with address AN_net_addr."
        REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
    ::= { olsrv2TibAttNetworksSetEntry 3 }

    olsrv2TibAttNetworksSetNetIpAddrType OBJECT-TYPE
        SYNTAX   InetAddressType
        MAX-ACCESS read-only
        STATUS   current
        DESCRIPTION
            "The type of the olsrv2TibAttNetworksSetNetIpAddr,
             as defined in the InetAddress MIB module (RFC 4001).

             Only the values 'ipv4(1)' and
             'ipv6(2)' are supported."
        REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
    ::= { olsrv2TibAttNetworksSetEntry 4 }

    olsrv2TibAttNetworksSetNetIpAddr OBJECT-TYPE
        SYNTAX   InetAddress (SIZE(4|16))
        MAX-ACCESS read-only
        STATUS   current
        DESCRIPTION
            "This is is the network address of an
             attached network, which may be reached via
             the router with originator address AN_orig_addr."
        REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
    ::= { olsrv2TibAttNetworksSetEntry 5 }

    olsrv2TibAttNetworksSetNetIpAddrPrefixLen OBJECT-TYPE
        SYNTAX   InetAddressPrefixLength
        MAX-ACCESS read-only
        STATUS   current
        DESCRIPTION
            "Indicates the number of leading one bits that form the
             mask to be logically ANDed with the destination address
             before being compared to the value in the
             olsrv2TibAttNetworksSetNetIpAddr field."

```
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibAttNetworksSetEntry 6 }

   olsrv2TibAttNetworksSetSeqNo  OBJECT-TYPE
      SYNTAX      Unsigned32 (0..65535)
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "The greatest ANSN in any TC
          message received which originated from the
          router with originator address AN_orig_addr
          (i.e., which contributed to the information
          contained in this Tuple)."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibAttNetworksSetEntry 7 }

   olsrv2TibAttNetworksSetDist  OBJECT-TYPE
      SYNTAX      Unsigned32 (0..255)
      UNITS       "hops"
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "The number of hops to the network
          with address AN_net_addr from the router with
          originator address AN_orig_addr."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibAttNetworksSetEntry 8 }

   olsrv2TibAttNetworksSetMetric  OBJECT-TYPE
      SYNTAX      Float32TC
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "The metric of the link from the router with
          originator address AN_orig_addr to the attached
          network with address AN_net_addr."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
```

```
            and U. Herberg, March 2013."
    ::= { olsrv2TibAttNetworksSetEntry 9 }


    olsrv2TibAttNetworksSetExpireTime  OBJECT-TYPE
       SYNTAX      TimeStamp
       UNITS       "milliseconds"
       MAX-ACCESS  read-only
       STATUS      current
       DESCRIPTION
          "olsrv2TibAttNetworksSetExpireTime
           specifies the value of sysUptime when this
           entry should expire and be removed from the
           olsrv2TibAttNetworksSetTable."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2TibAttNetworksSetEntry 10 }



    --
    -- Routing Set
    --

    olsrv2TibRoutingSetTable OBJECT-TYPE
       SYNTAX      SEQUENCE OF Olsrv2TibRoutingSetEntry
       MAX-ACCESS  not-accessible
       STATUS      current
       DESCRIPTION
          "A router's Routing Set records the first hop along a
           selected path to each destination for which any such
           path is known."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2StateGroup 11 }

    olsrv2TibRoutingSetEntry  OBJECT-TYPE
       SYNTAX      Olsrv2TibRoutingSetEntry
       MAX-ACCESS  not-accessible
       STATUS      current
       DESCRIPTION
          "It consists of Routing Tuples:

              (R_dest_addr, R_next_iface_addr,
               R_local_iface_addr, R_dist, R_metric)"
```

```
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
      INDEX { olsrv2TibRoutingSetDestIpAddrType,
              olsrv2TibRoutingSetDestIpAddr,
              olsrv2TibRoutingSetDestIpAddrPrefLen }
   ::= { olsrv2TibRoutingSetTable 1 }

   Olsrv2TibRoutingSetEntry ::=
      SEQUENCE {
         olsrv2TibRoutingSetDestIpAddrType
            InetAddressType,
         olsrv2TibRoutingSetDestIpAddr
            InetAddress,
         olsrv2TibRoutingSetDestIpAddrPrefLen
            InetAddressPrefixLength,
         olsrv2TibRoutingSetNextIfIpAddrType
            InetAddressType,
         olsrv2TibRoutingSetNextIfIpAddr
            InetAddress,
         olsrv2TibRoutingSetLocalIfIpAddrType
            InetAddressType,
         olsrv2TibRoutingSetLocalIfIpAddr
            InetAddress,
         olsrv2TibRoutingSetDist
            Unsigned32,
         olsrv2TibRoutingSetMetric
            Float32TC
      }

   olsrv2TibRoutingSetDestIpAddrType  OBJECT-TYPE
      SYNTAX      InetAddressType
      MAX-ACCESS  not-accessible
      STATUS      current
      DESCRIPTION
         "The type of the olsrv2TibRoutingSetDestIpAddr
          and olsrv2TibRoutingSetNextIfIpAddr,
          as defined in the InetAddress MIB module (RFC 4001).

          Only the values 'ipv4(1)' and
          'ipv6(2)' are supported."
      REFERENCE
         "RFC XXXX - The Optimized Link State Routing Protocol
          version 2, Clausen, T., Dearlove, C., Jacquet, P.
          and U. Herberg, March 2013."
   ::= { olsrv2TibRoutingSetEntry 1 }
```

      olsrv2TibRoutingSetDestIpAddr OBJECT-TYPE
         SYNTAX   InetAddress (SIZE(4|16))
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "This is the address of the destination,
             either the address of an interface of
             a destination router, or the network
             address of an attached network."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibRoutingSetEntry 2 }

      olsrv2TibRoutingSetDestIpAddrPrefLen OBJECT-TYPE
         SYNTAX   InetAddressPrefixLength
         MAX-ACCESS not-accessible
         STATUS   current
         DESCRIPTION
            "Indicates the number of leading one bits that form the
             mask to be logically ANDed with the destination address
             before being compared to the value in the
             olsrv2TibRoutingSetDestIpAddr field.

             Note: This definition needs to be consistent
             with the current forwarding table MIB module description.
             Specifically, it should allow for longest prefix
             matching of network addresses."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibRoutingSetEntry 3 }

      olsrv2TibRoutingSetNextIfIpAddrType OBJECT-TYPE
         SYNTAX   InetAddressType
         MAX-ACCESS read-only
         STATUS   current
         DESCRIPTION
            "The type of the olsrv2TibRoutingSetNextIfIpAddr
             and olsrv2TibRoutingSetNextIfIpAddr,
             as defined in the InetAddress MIB module (RFC 4001).

             Only the values 'ipv4(1)' and
             'ipv6(2)' are supported."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol

              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
       ::= { olsrv2TibRoutingSetEntry 4 }

       olsrv2TibRoutingSetNextIfIpAddr OBJECT-TYPE
          SYNTAX   InetAddress (SIZE(4|16))
          MAX-ACCESS   read-only
          STATUS   current
          DESCRIPTION
             "This object is the OLSRv2 interface address of the
              next hop on the selected path to the
              destination."
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
       ::= { olsrv2TibRoutingSetEntry 5 }

       olsrv2TibRoutingSetLocalIfIpAddrType OBJECT-TYPE
          SYNTAX   InetAddressType
          MAX-ACCESS   read-only
          STATUS   current
          DESCRIPTION
             "The type of the olsrv2TibRoutingSetLocalIfIpAddr
              and olsrv2TibRoutingSetNextIfIpAddr,
              as defined in the InetAddress MIB module (RFC 4001).

              Only the values 'ipv4(1)' and
              'ipv6(2)' are supported."
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.
              and U. Herberg, March 2013."
       ::= { olsrv2TibRoutingSetEntry 6 }

       olsrv2TibRoutingSetLocalIfIpAddr OBJECT-TYPE
          SYNTAX   InetAddress (SIZE(4|16))
          MAX-ACCESS   read-only
          STATUS   current
          DESCRIPTION
             "This object is the address of the local OLSRv2
              interface over which a packet must be
              sent to reach the destination by the
              selected path."
          REFERENCE
             "RFC XXXX - The Optimized Link State Routing Protocol
              version 2, Clausen, T., Dearlove, C., Jacquet, P.

            and U. Herberg, March 2013."
      ::= { olsrv2TibRoutingSetEntry 7 }

      olsrv2TibRoutingSetDist OBJECT-TYPE
         SYNTAX   Unsigned32 (0..255)
         UNITS   "hops"
         MAX-ACCESS   read-only
         STATUS   current
         DESCRIPTION
            "This object is the number of hops on the selected
             path to the destination."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibRoutingSetEntry 8 }

      olsrv2TibRoutingSetMetric OBJECT-TYPE
         SYNTAX   Float32TC
         MAX-ACCESS   read-only
         STATUS   current
         DESCRIPTION
            "This object is the metric of the route
             to the destination with address R_dest_addr."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2TibRoutingSetEntry 9 }

  --
  -- OLSRv2 Performance Group
  --

  --
  --   Contains objects which help to characterize the
  --   performance of the OLSRv2 routing process.
  --

  olsrv2PerformanceObjGrp OBJECT IDENTIFIER ::= {olsrv2MIBObjects 3}

      --
      -- Objects per local interface
      --

      olsrv2InterfacePerfTable OBJECT-TYPE
         SYNTAX   SEQUENCE OF Olsrv2InterfacePerfEntry
         MAX-ACCESS   not-accessible
         STATUS   current
         DESCRIPTION
            "This table summarizes performance objects that are
             measured per each active local OLSRv2 interface.
             If the olsrv2InterfaceAdminStatus of the interface
             changes to 'disabled' then the row associated with this
             interface should be removed from this table."
         REFERENCE
            "RFC XXXX - The Optimized Link State Routing Protocol
             version 2, Clausen, T., Dearlove, C., Jacquet, P.
             and U. Herberg, March 2013."
      ::= { olsrv2PerformanceObjGrp 1 }

      olsrv2InterfacePerfEntry OBJECT-TYPE
         SYNTAX   Olsrv2InterfacePerfEntry
         MAX-ACCESS   not-accessible
         STATUS   current
         DESCRIPTION
            "A single entry contains performance counters for
             each active local OLSRv2 interface."
         AUGMENTS { nhdpInterfacePerfEntry }
      ::= { olsrv2InterfacePerfTable 1 }

      Olsrv2InterfacePerfEntry ::=
         SEQUENCE {
            olsrv2IfTcMessageXmits
               Counter32,
            olsrv2IfTcMessageRecvd
               Counter32,
            olsrv2IfTcMessageXmitAccumulatedSize
               Counter64,
            olsrv2IfTcMessageRecvdAccumulatedSize
               Counter64,
            olsrv2IfTcMessageTriggeredXmits
               Counter32,
            olsrv2IfTcMessagePeriodicXmits
               Counter32,
            olsrv2IfTcMessageForwardedXmits
               Counter32,
            olsrv2IfTcMessageXmitAccumulatedMPRSelectorCount
               Counter32
         }

      olsrv2IfTcMessageXmits OBJECT-TYPE
         SYNTAX   Counter32

```
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A counter is incremented each time a TC
          message has been transmitted on that interface."
   ::= { olsrv2InterfacePerfEntry 1 }

   olsrv2IfTcMessageRecvd  OBJECT-TYPE
      SYNTAX      Counter32
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A counter is incremented each time a
          TC message has been received on that interface."
   ::= { olsrv2InterfacePerfEntry 2 }

   olsrv2IfTcMessageXmitAccumulatedSize  OBJECT-TYPE
      SYNTAX      Counter64
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A counter is incremented by the number of octets in
          a TC message each time a
          TC message has been sent."
   ::= { olsrv2InterfacePerfEntry 3 }

   olsrv2IfTcMessageRecvdAccumulatedSize  OBJECT-TYPE
      SYNTAX      Counter64
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A counter is incremented by the number of octets in
          a TC message each time a
          TC message has been received."
   ::= { olsrv2InterfacePerfEntry 4 }

   olsrv2IfTcMessageTriggeredXmits  OBJECT-TYPE
      SYNTAX      Counter32
      MAX-ACCESS  read-only
      STATUS      current
      DESCRIPTION
         "A counter is incremented each time a triggered
          TC message has been sent."
   ::= { olsrv2InterfacePerfEntry 5 }

   olsrv2IfTcMessagePeriodicXmits  OBJECT-TYPE
      SYNTAX      Counter32
      MAX-ACCESS  read-only
```

```
          STATUS        current
          DESCRIPTION
             "A counter is incremented each time a periodic
              TC message has been sent."
       ::= { olsrv2InterfacePerfEntry 6 }


       olsrv2IfTcMessageForwardedXmits  OBJECT-TYPE
          SYNTAX        Counter32
          MAX-ACCESS  read-only
          STATUS        current
          DESCRIPTION
             "A counter is incremented each time a
              TC message has been forwarded."
       ::= { olsrv2InterfacePerfEntry 7 }


       olsrv2IfTcMessageXmitAccumulatedMPRSelectorCount OBJECT-TYPE
          SYNTAX        Counter32
          MAX-ACCESS  read-only
          STATUS        current
          DESCRIPTION
             "A counter is incremented by the number of advertised
              MPR selectors in a TC each time a TC
              message has been sent."
       ::= { olsrv2InterfacePerfEntry 8 }




       --
       -- Objects concerning the Routing set
       --

       olsrv2RoutingSetRecalculationCount  OBJECT-TYPE
          SYNTAX        Counter32
          MAX-ACCESS  read-only
          STATUS        current
          DESCRIPTION
             "This counter increments each time the Routing Set has
              been recalculated."
       ::= { olsrv2PerformanceObjGrp 2 }

       --
       -- Objects concerning the MPR set
       --

       olsrv2MPRSetRecalculationCount  OBJECT-TYPE
          SYNTAX        Counter32
          MAX-ACCESS  read-only
          STATUS        current
```

```
       DESCRIPTION
          "This counter increments each time the MPRs
           of this router have been recalculated for
           any of its interfaces."
    ::= { olsrv2PerformanceObjGrp 3 }




--
-- Notifications
--

olsrv2NotificationsObjects OBJECT IDENTIFIER ::=
                                   { olsrv2MIBNotifications 0 }
olsrv2NotificationsControl OBJECT IDENTIFIER ::=
                                   { olsrv2MIBNotifications 1 }
olsrv2NotificationsStates  OBJECT IDENTIFIER ::=
                                   { olsrv2MIBNotifications 2 }


    -- olsrv2NotificationsObjects

    olsrv2RouterStatusChange NOTIFICATION-TYPE
        OBJECTS { olsrv2OrigIpAddrType, -- The address type of
                                        --    the originator of
                                        --    the notification.
                  olsrv2OrigIpAddr,     -- The originator of
                                        --    the notification.
                  olsrv2AdminStatus     -- The new state.
        }
        STATUS      current
        DESCRIPTION
           "olsrv2RouterStatusChange is a notification sent
            when the OLSRv2 router changes it status.
            The router status is maintained in the
            olsrv2AdminStatus object."
    ::= { olsrv2NotificationsObjects 1 }

    olsrv2OrigIpAddrChange NOTIFICATION-TYPE
        OBJECTS { olsrv2OrigIpAddrType, -- The address type of
                                        --    the originator of
                                        --    the notification.
                  olsrv2OrigIpAddr,     -- The originator of
                                        --    the notification.
                  olsrv2PreviousOrigIpAddrType, -- The address
                                        -- type of previous
```

```
                                       -- address of
                                       -- the originator of
                                       -- the notification.
                 olsrv2PreviousOrigIpAddr  -- The previous
                                       -- address of the
                                       -- originator of
                                       -- the notification.
        }
        STATUS      current
        DESCRIPTION
           "olsrv2OrigIpAddrChange is a notification sent when
            the OLSRv2 router changes it originator IP address.
            The notification includes the new and the previous
            originator IP address of the OLSRv2 router."
     ::= { olsrv2NotificationsObjects 2 }


     olsrv2RoutingSetRecalculationCountChange NOTIFICATION-TYPE
        OBJECTS { olsrv2OrigIpAddrType, -- The address type of
                                       --   the originator of
                                       --   the notification.
                 olsrv2OrigIpAddr,     -- The originator of
                                       --   the notification.
                 olsrv2RoutingSetRecalculationCount  -- The
                                           -- new count of the
                                           -- routing set
                                           -- recalculations.
        }
        STATUS        current
        DESCRIPTION
           "olsrv2RoutingSetRecalculationCountChange is
            a notification sent when a significant number of
            routing set recalculations have occurred.
            The network administrator should select
            appropriate values for 'significant number of
            neighbors' and 'short time' through the settings
            of the olsrv2RoutingSetRecalculationCountThreshold
            and olsrv2RoutingSetRecalculationCountWindow
            objects."
     ::= { olsrv2NotificationsObjects 3 }


     olsrv2MPRSetRecalculationCountChange NOTIFICATION-TYPE
        OBJECTS { olsrv2OrigIpAddrType, -- The address type of
                                       --   the originator of
                                       --   the notification.
                 olsrv2OrigIpAddr,     -- The originator of
                                       --   the notification.
                 olsrv2MPRSetRecalculationCount  -- The new
                                           --   MPR set
```

```
                                        --    recalculation
                                        --    count.
           }
        STATUS       current
        DESCRIPTION
           "olsrv2MPRSetRecalculationCountChange is
            a notification sent when a significant number of
            MPR set recalculations have occurred.
            The network administrator should select
            appropriate values for 'significant number of
            neighbors' and 'short time' through the settings
            of the olsrv2MPRSetRecalculationCountThreshold
            and olsrv2MPRSetRecalculationCountWindow
            objects."
        ::= { olsrv2NotificationsObjects 4 }


        -- olsrv2NotificationsControl

        olsrv2RoutingSetRecalculationCountThreshold OBJECT-TYPE
           SYNTAX       Integer32 (0..255)
           MAX-ACCESS  read-write
           STATUS       current
           DESCRIPTION
              "A threshold value for the
               olsrv2RoutingSetRecalculationCount object.
               If the number of occurrences exceeds this
               threshold within the previous
               olsrv2RoutingSetReculculationCountWindow,
               then the olsrv2RoutingSetRecalculationCountChange
               notification is to be sent.

               It is recommended that the value of this
               threshold be set to at least 20 and higher
               in dense topologies with frequent expected
               topology changes."
        ::= { olsrv2NotificationsControl 1 }

        olsrv2RoutingSetRecalculationCountWindow OBJECT-TYPE
           SYNTAX       TimeTicks
           MAX-ACCESS  read-write
           STATUS       current
           DESCRIPTION
              "A time window for the
               olsrv2RoutingSetRecalculationCount object.
               If the number of occurrences exceeds the
               olsrv2RoutingSetRecalculationCountThreshold
               within the previous
```

```
         olsrv2RoutingSetRecalculationCountWindow,
         then the
         olsrv2RoutingSetRecalculationCountChange
         notification is to be sent.

         This object represents the time in hundredths
         of a second.

         It is recommended that the value for this
         window be set to at least 5 times the
         nhdpHelloInterval."
   ::= { olsrv2NotificationsControl 2 }

   olsrv2MPRSetRecalculationCountThreshold OBJECT-TYPE
      SYNTAX      Integer32 (0..255)
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
         "A threshold value for the
          olsrv2MPRSetRecalculationCount object.
          If the number of occurrences exceeds this
          threshold within the previous
          olsrv2MPRSetReculculationCountWindow,
          then the
          olsrv2MPRSetRecalculationCountChange
          notification is to be sent.

          It is recommended that the value of this
          threshold be set to at least 20 and higher
          in dense topologies with frequent expected
          topology changes."
   ::= { olsrv2NotificationsControl 3 }

   olsrv2MPRSetRecalculationCountWindow OBJECT-TYPE
      SYNTAX      TimeTicks
      MAX-ACCESS  read-write
      STATUS      current
      DESCRIPTION
         "A time window for the
          olsrv2MPRSetRecalculationCount object.
          If the number of occurrences exceeds the
          olsrv2MPRSetRecalculationCountThreshold
          within the previous
          olsrv2MPRSetRecalculationCountWindow,
          then the
          olsrv2MPRSetRecalculationCountChange
          notification is to be sent.
          This object represents the time in hundredths
```

           of a second.

           It is recommended that the value for this
           window be set to at least 5 times the
           nhdpHelloInterval."
    ::= { olsrv2NotificationsControl 4 }

    -- olsrv2NotificationStates

    olsrv2PreviousOrigIpAddrType OBJECT-TYPE
       SYNTAX   InetAddressType
       MAX-ACCESS read-only
       STATUS   current
       DESCRIPTION
          "The type of the olsrv2PreviousOrigIpAddr,
           as defined in the InetAddress MIB module (RFC 4001).

           Only the values 'ipv4(1)' and
           'ipv6(2)' are supported."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2NotificationsStates 1 }

    olsrv2PreviousOrigIpAddr OBJECT-TYPE
       SYNTAX   InetAddress (SIZE(4|16))
       MAX-ACCESS read-only
       STATUS   current
       DESCRIPTION
          "The previous origination IP address
           of this OLSRv2 router.

           This object should be updated each time
           the olsrv2OrigIpAddr is modified.

           This object is persistent and when written
           the entity SHOULD save the change to
           non-volatile storage."
       REFERENCE
          "RFC XXXX - The Optimized Link State Routing Protocol
           version 2, Clausen, T., Dearlove, C., Jacquet, P.
           and U. Herberg, March 2013."
    ::= { olsrv2NotificationsStates 2 }

```
     --
     -- Compliance Statements
     --

     olsrv2Compliances  OBJECT IDENTIFIER ::= { olsrv2MIBConformance 1 }
     olsrv2MIBGroups    OBJECT IDENTIFIER ::= { olsrv2MIBConformance 2 }

     olsrv2BasicCompliance  MODULE-COMPLIANCE
        STATUS current
        DESCRIPTION
           "The basic implementation requirements for
            managed network entities that implement
            the OLSRv2 routing process."
        MODULE  -- this module
        MANDATORY-GROUPS { olsrv2ConfigObjectsGroup }
     ::= { olsrv2Compliances 1 }

     olsrv2FullCompliance MODULE-COMPLIANCE
        STATUS current
        DESCRIPTION
           "The full implementation requirements for
            managed network entities that implement
            the OLSRv2 routing process."
        MODULE  -- this module
        MANDATORY-GROUPS { olsrv2ConfigObjectsGroup,
                           olsrv2StateObjectsGroup,
                           olsrv2PerfObjectsGroup,
                           olsrv2NotificationsObjectsGroup,
                           olsrv2NotificationsGroup }
     ::= { olsrv2Compliances 2 }

     --
     -- Units of Conformance
     --

     olsrv2ConfigObjectsGroup OBJECT-GROUP
        OBJECTS {
           olsrv2AdminStatus,
           olsrv2InterfaceAdminStatus,
           olsrv2OrigIpAddrType,
           olsrv2OrigIpAddr,
           olsrv2OHoldTime,
           olsrv2TcInterval,
           olsrv2TcMinInterval,
           olsrv2THoldTime,
           olsrv2AHoldTime,
           olsrv2RxHoldTime,
           olsrv2PHoldTime,
```

```
             olsrv2FHoldTime,
             olsrv2TpMaxJitter,
             olsrv2TtMaxJitter,
             olsrv2FMaxJitter,
             olsrv2TcHopLimit,
             olsrv2WillFlooding,
             olsrv2WillRouting,
             olsrv2LinkMetricType
          }
          STATUS      current
          DESCRIPTION
             "Set of OLSRv2 configuration objects implemented
              in this module."
       ::= { olsrv2MIBGroups 1 }

       olsrv2StateObjectsGroup  OBJECT-GROUP
          OBJECTS {
             olsrv2LibOrigSetIpAddrType,
             olsrv2LibOrigSetIpAddr,
             olsrv2LibOrigSetExpireTime,
             olsrv2LibLocAttNetSetIpAddrType,
             olsrv2LibLocAttNetSetIpAddr,
             olsrv2LibLocAttNetSetIpAddrPrefixLen,
             olsrv2LibLocAttNetSetDistance,
             olsrv2LibLocAttNetSetMetric,
             olsrv2IibLinkSetInMetric,
             olsrv2IibLinkSetOutMetric,
             olsrv2IibLinkSetMprSelector,
             olsrv2Iib2HopSetInMetric,
             olsrv2Iib2HopSetOutMetric,
             olsrv2NibNeighborSetNOrigIpAddrType,
             olsrv2NibNeighborSetNOrigIpAddr,
             olsrv2NibNeighborSetNInMetric,
             olsrv2NibNeighborSetNOutMetric,
             olsrv2NibNeighborSetNWillFlooding,
             olsrv2NibNeighborSetNWillRouting,
             olsrv2NibNeighborSetNFloodingMpr,
             olsrv2NibNeighborSetNRoutingMpr,
             olsrv2NibNeighborSetNMprSelector,
             olsrv2NibNeighborSetNAdvertised,
             olsrv2NibNeighborSetTableAnsn,
             olsrv2TibAdRemoteRouterSetIpAddrType,
             olsrv2TibAdRemoteRouterSetIpAddr,
             olsrv2TibAdRemoteRouterSetMaxSeqNo,
             olsrv2TibRouterTopologySetFromOrigIpAddrType,
             olsrv2TibRouterTopologySetFromOrigIpAddr,
             olsrv2TibRouterTopologySetToOrigIpAddrType,
             olsrv2TibRouterTopologySetToOrigIpAddr,
```

```
        olsrv2TibRouterTopologySetSeqNo,
        olsrv2TibRouterTopologySetMetric,
        olsrv2TibRoutableAddressTopologySetExpireTime,
        olsrv2TibRoutableAddressTopologySetFromOrigIpAddrType,
        olsrv2TibRoutableAddressTopologySetFromOrigIpAddr,
        olsrv2TibRoutableAddressTopologySetDestIpAddrType,
        olsrv2TibRoutableAddressTopologySetDestIpAddr,
        olsrv2TibRoutableAddressTopologySetSeqNo,
        olsrv2TibRoutableAddressTopologySetMetric,
        olsrv2TibAttNetworksSetOrigIpAddrType,
        olsrv2TibAttNetworksSetOrigIpAddr,
        olsrv2TibAttNetworksSetNetIpAddrType,
        olsrv2TibAttNetworksSetNetIpAddr,
        olsrv2TibAttNetworksSetNetIpAddrPrefixLen,
        olsrv2TibAttNetworksSetSeqNo,
        olsrv2TibAttNetworksSetDist,
        olsrv2TibAttNetworksSetMetric,
        olsrv2TibAttNetworksSetExpireTime,
        olsrv2TibRoutingSetNextIfIpAddrType,
        olsrv2TibRoutingSetNextIfIpAddr,
        olsrv2TibRoutingSetLocalIfIpAddrType,
        olsrv2TibRoutingSetLocalIfIpAddr,
        olsrv2TibRoutingSetDist,
        olsrv2TibRoutingSetMetric
    }
    STATUS      current
    DESCRIPTION
        "Set of OLSRv2 state objects implemented
         in this module."
    ::= { olsrv2MIBGroups 2 }

    olsrv2PerfObjectsGroup  OBJECT-GROUP
        OBJECTS {
            olsrv2IfTcMessageXmits,
            olsrv2IfTcMessageRecvd,
            olsrv2IfTcMessageXmitAccumulatedSize,
            olsrv2IfTcMessageRecvdAccumulatedSize,
            olsrv2IfTcMessageTriggeredXmits,
            olsrv2IfTcMessagePeriodicXmits,
            olsrv2IfTcMessageForwardedXmits,
            olsrv2IfTcMessageXmitAccumulatedMPRSelectorCount,
            olsrv2RoutingSetRecalculationCount,
            olsrv2MPRSetRecalculationCount
        }
        STATUS      current
        DESCRIPTION
            "Set of OLSRv2 performance objects implemented
             in this module by total and per interface."
```

```
   ::= { olsrv2MIBGroups 3 }

 olsrv2NotificationsObjectsGroup OBJECT-GROUP
    OBJECTS {
       olsrv2RoutingSetRecalculationCountThreshold,
       olsrv2RoutingSetRecalculationCountWindow,
       olsrv2MPRSetRecalculationCountThreshold,
       olsrv2MPRSetRecalculationCountWindow,
       olsrv2PreviousOrigIpAddrType,
       olsrv2PreviousOrigIpAddr
    }
    STATUS      current
    DESCRIPTION
       "Set of OLSRv2 notification objects implemented
        in this module."
  ::= { olsrv2MIBGroups 4 }


 olsrv2NotificationsGroup NOTIFICATION-GROUP
    NOTIFICATIONS {
       olsrv2RouterStatusChange,
       olsrv2OrigIpAddrChange,
       olsrv2RoutingSetRecalculationCountChange,
       olsrv2MPRSetRecalculationCountChange
    }
    STATUS current
    DESCRIPTION
        "Set of OLSRv2 notifications implemented
         in this module."
  ::= { olsrv2MIBGroups 5 }

 END
```

8. Security Considerations

   This MIB module defines objects for the configuration, monitoring and
   notification of the Optimized Link State Routing protocol version 2
   [OLSRv2]. OLSRv2 allows routers to acquire topological information
   of the routing domain by virtue of exchanging TC message, to
   calculate shortest paths to each destination router in the routing
   domain, to select relays for network-wide transmissions etc.

   There are a number of management objects defined in this MIB module
   with a MAX-ACCESS clause of read-write and/or read-create. 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 their
sensitivity/vulnerability:

o olsrv2TcInterval, olsrv2TcMinInterval - these writable objects
   control the rate at which TC messages are sent. If set at too
   high a rate, this could represent a form of DOS attack by
   overloading interface resources. If set low, OLSRv2 may not
   converge fast enough to provide accurate routes to all
   destinations in the routing domain.

o olsrv2TcHopLimit - defines the hop limit for TC messages. If set
   too low, messages will not be forwarded beyond the defined scope,
   and thus routers further away from the message originator will not
   be able to construct appropriate topology graphs.

o olsrv2OHoldTime, olsrv2THoldTime, olsrv2AHoldTime,
   olsrv2RxHoldTime, olsrv2PHoldTime, olsrv2FHoldTime - define hold
   times for tuples of different Information Bases of OLSRv2. If set
   too low, information will expire quickly, and may this harm a
   correct operation of the routing protocol.

o olsrv2WillFlooding and olsrv2WillRouting - define the willingness
   of this router to become MPR. If this is set to WILL_NEVER (0),
   the managed router will not forward any TC messages, nor accept a
   selection to become MPR by neighboring routers. If set to
   WILL_ALWAYS (15), the router will be preferred by neighbors during
   MPR selection, and may thus attract more traffic.

o olsrv2TpMaxJitter, olsrv2TtMaxJitter, olsrv2FMaxJitter - define
   jitter values for TC message transmission and forwarding. If set
   too low, control traffic may get lost if the channel is lossy.

o olsrv2LinkMetricType - defines the type of the link metric that a
   router uses (e.g., ETX or hop-count). Whenever this value
   changes, all link metric information recorded by the router is
   invalid, causing a reset of information acquired from other
   routers in the MANET. Moreover, if olsrv2LinkMetricType on a
   router is set to a value that is not known to other routers in the
   MANET, these routers will not be able to establish routes to that
   router or transiting that router. Existing routes to the router
   with a olsrv2LinkMetricType unknown to other routers in the MANET
   will be removed.

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:

o olsrv2TibRouterTopologySetTable - The contains information on the
   topology of the MANET, specifically the IP address of the routers
   in the MANET (as identified by
   olsrv2TibRouterTopologySetFromOrigIpAddr and
   olsrv2TibRouterTopologySetToOrigIpAddr objects). This information
   provides an adversary broad information on the members of the
   MANET, located within this single table. This information can be
   use to expedite attacks on the other members of the MANET without
   having to go through a laborious discovery process on their own.
   olsrv2TibRouterTopologySetFromOrigIpAddr is the index into the
   table, and has a MAX-ACCESS of 'not-accessible'. However, this
   information can be exposed using SNMP operations.

MANET technology is often deployed to support communications of
emergency services or military tactical applications. In these
applications, it is imperative to maintain the proper operation of
the communications network and to protect sensitive information
related to its operation. Therefore, when implementing these
capabilities, the full use of SNMPv3 cryptographic mechanisms for
authentication and privacy is RECOMMENDED.

SNMP versions prior to SNMPv3 did not include adequate security.
Even if the network itself is secure (for example by using IPSec),
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 implementers 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.

9. Applicability Statement

This document describes objects for configuring parameters of the
Optimized Link State Routing version 2 (OLSRv2) Protocol [OLSRv2]
process on a router. This MIB module, denoted OLSRv2-MIB, also

reports state, performance information and notifications. The OLSRv2
protocol relies upon information gathered via the Neighborhood
Discovery Protocol [RFC6130] in order to perform its operations. The
NHDP protocol is managed via the NHDP-MIB [RFC6779].

MANET deployments can greatly differ in aspects of dynamicity of the
topology, capacity and loss rates of underlying channels, traffic
flow directions, memory and CPU capacity of routers etc. SNMP and
therefore this MIB module are only applicable for a subset of MANET
deployments, in particular deployments:

o In which routers have enough memory and CPU resources to run SNMP
   and expose the MIB module.

o Where a network management station (NMS) is defined to which
   notifications are sent, and from which routers can be managed.

o Where this NMS is reachable from routers in the MANET most of the
   time (as notifications to the NMS and management information from
   the NMS to the router will be lost when connectivity is
   temporarily lost). This requires that the topology of the MANET
   is only moderately dynamic.

o Where the underlying wireless channel supports enough bandwidth to
   run SNMP, and where loss rates of the channel are not exhaustive.

Certain MANET deployments, such as community networks with non-mobile
routers, dynamic topology because of changing link quality, and a
pre-defined gateway (that could also serve as NMS), are examples of
networks applicable for this MIB module. Other, more constrained
deployments of MANETs may not be able to run SNMP and require
different management protocols.

Some level of configuration, i.e., read-write objects, are desirable
for OLSRv2 deployments. Topology related configuration such as the
ability to enable OLSRv2 on new interfaces or initially configure
OLSRv2 on a router's interfaces through the
olsrv2InterfaceAdminStatus object is critical to initial system
startup. The OLSRv2 protocol allows for some level of performance
tuning through various protocol parameters and this MIB allows for
configuration of those protocol parameters through read-write objects
such as the olsrv2TcHopLimit or the olsrv2FMaxJitter. Other read-
write objects allow for the control of Notification behavior through
this MIB module, e.g., the
olsrv2RoutingSetRecalculationCountThreshold object. A fuller
discussion of MANET network management applicability is to be
provided elsewhere [USE-CASES].

10. IANA Considerations

The MIB module in this document uses the following IANA-assigned
OBJECT IDENTIFIER value recorded in the SMI Numbers registry:

```
     Descriptor          OBJECT IDENTIFIER value
     ----------          -----------------------
     OLSRv2-MIB          { mib-2 ZZZZ }
     IANA EDITOR NOTE: please assign ZZZZ
```

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Schoenwaelder, Dave Perkins, C.M.Heard and Randy Presuhn.

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Appendix A. Note to the RFC Editor


```
****************************************************************
* Note to the RFC Editor (to be removed prior to publication) *
*                                                            *
* 1) The reference to RFCYYYY within the DESCRIPTION clauses  *
* of the MIB module point to this draft and are to be        *
* assigned by the RFC Editor.                                *
*                                                            *
* 2) The reference to RFCXXXX throughout this document point  *
* to the current draft-ietf-manet-olsrv2-xx.txt.  This       *
* needs to be replaced with the XXXX RFC number for the      *
* OLSRv2 publication.                                        *
*                                                            *
****************************************************************
```

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