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**LISP MIB**  
**draft-ietf-lisp-mib-08**

**Abstract**

This document defines managed objects for the Locator/ID Separation Protocol (LISP). These objects provide information useful for monitoring LISP devices, including basic configuration information, LISP status, and operational statistics.

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## **1. Requirements Notation**

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 [\[RFC2119\]](#).

## **2. Introduction**

This draft describes the Management Information Base (MIB) module for use with network management protocols in the Internet community. Specifically, the MIB for managing Locator/ID Separation Protocol (LISP) devices is described.

LISP [\[LISP\]](#) specifies a network-based architecture and mechanisms that implement a new semantic for IP addressing using two separate name spaces: Endpoint Identifiers (EIDs), used within sites, and Routing Locators (RLOCs), used on the transit networks that make up the Internet infrastructure. To achieve this separation, LISP defines protocol mechanisms for mapping from EIDs to RLOCs.

From a data plane perspective, LISP traffic is handled exclusively at the network layer by devices performing Ingress Tunnel Router (ITR) and Egress Tunnel Router (ETR) LISP functions. Data plane operations performed by these devices are described in [\[LISP\]](#). Additionally, data plane interworking between legacy (Internet) and LISP sites is implemented by devices performing Proxy ITR (PITR) and Proxy ETR (PETR) functions. The data plane operations of these devices is described in [\[INTERWORK\]](#).

From a control plane perspective, LISP employs mechanisms related to creating, maintaining, and resolving mappings from EIDs to RLOCs. LISP ITRs, ETRs, PITRs, and PETRs perform specific control plane functions, and these control plane operations are described in [\[LISP\]](#). Additionally, LISP infrastructure devices supporting LISP control plane functionality include Map-Servers and Map-Resolvers, and the control plane operations of these devices are described in [\[LISP-MS\]](#). Finally, while not specifically required, this document assumes the existence of a database to store and propagate those mappings globally.

## **3. The Internet-Standard Management Framework**

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

Managed objects are accessed via a virtual information store, termed



the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP). Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, [RFC 2578](#) [[RFC2578](#)], STD 58, [RFC 2579](#) [[RFC2579](#)] and STD 58, [RFC 2580](#) [[RFC2580](#)].

#### **4. Definition of Terms**

Endpoint ID (EID): a 32-bit (for IPv4) or 128-bit (for IPv6) value used in the source and destination address fields of the first (inner-most) IP header of a LISP packet. A source EID is allocated to a host from an EID-prefix block associated with the site where the host is located. A host determines a destination address in the same way that it determines a destination address today, for example through a DNS lookup or SIP exchange.

Routing Locator (RLOC): a 32-bit (for IPv4) or 128-bit (for IPv6) value used in the source and destination address fields of the second (outer-most) IP header of a LISP packet. RLOC addresses are allocated to an egress tunnel router (ETR) and numbered from topologically-aggregatable blocks assigned to a site at each point to which it attaches to the global Internet.

EID-to-RLOC Map-Cache: a short-lived, on-demand table maintained locally in an ITR or PITR that stores, tracks, and is responsible for timing-out and otherwise validating EID-to-RLOC mappings. This table is distinct from the full "database" of EID-to-RLOC mappings in that it is dynamic and relatively small. At a given moment in time, it consists only of entries for those sites to which the ITR or PITR is currently communicating or has communicated with within the configured TTL period.

EID-to-RLOC Mapping-Database: a global distributed database that contains all known EID-to-RLOC mappings. Each potential ETR typically contains a small piece of the database consisting of only the EID-to-RLOC mappings for the EID prefix(es) for which the ETR is "authoritative" and the RLOC(s) by which those EID prefix(es) are reachable from the global Internet.

Ingress Tunnel Router (ITR): a router that accepts an IP packet with a single IP header (more precisely, an IP packet that does not contain a LISP header), treats this "inner" IP destination address as an EID and performs an EID-to-RLOC mapping lookup, and then prepends an "outer" IP header with one of its own globally-routable RLOCs in the source address field and the RLOC resulting from the mapping lookup in the destination address field. That



is, in general an ITR receives an IP packet from site end-systems on one side and sends a LISP-encapsulated IP packet toward the Internet on the other side.

Egress Tunnel Router (ETR): a router that accepts an IP packet where the destination address in the "outer" IP header is one of its own RLOCs, strips the "outer" header, and forwards the packet based on the next IP header found. That is, in general an ETR receives LISP-encapsulated IP packets from the Internet on one side and sends decapsulated IP packets toward site end-systems on the other side.

xTR: a term of general reference to an ITR or ETR when direction of data flow is not part of the context description. xTR refers to the router that is the tunnel endpoint and performs both ITR and ETR functionality. For example, "An xTR can be located at the Customer Edge (CE) router," meaning both ITR and ETR functionality is activated at the CE router.

Proxy ITR (PITR): a router that acts like an ITR but does so on behalf of non-LISP sites which send packets to destinations at LISP sites. The PITR, also known as a PTR, is defined and described in [[INTERWORK](#)].

Proxy ETR (PETR): a router that acts like an ETR but does so on behalf of LISP sites which send packets to destinations at non-LISP sites. The PETR is defined and described in [[INTERWORK](#)].

LISP Site: a set of routers in an edge network that are under a single technical administration. LISP routers which reside in the edge network are the demarcation points to separate the edge network from the core network.

Map-Server: a LISP network infrastructure component which learns EID-to-RLOC mapping entries from an authoritative source such as an ETR through static configuration, or another out-of-band mechanism. A Map-Server advertises these mappings into the distributed mapping database.

Map-Resolver: a LISP network infrastructure component which accepts LISP Encapsulated Map-Requests, typically from an ITR, and quickly determines whether or not the destination IP address is part of the EID namespace. If it is, the Map-Resolver finds the appropriate EID-to-RLOC mapping by consulting the distributed mapping database. If it is not, a Negative Map-Reply is immediately returned.





**Map-Request:** a LISP Map-Request message type sent by an ITR or PITR to a Map-Resolver when it needs a mapping for an EID, wants to test an RLOC for reachability, or wants to refresh a mapping before TTL expiration.

**Map-Reply:** a LISP Map-Reply message type returned in response to a Map-Request for a destination EID that exists in the mapping database and contains the locator-set and associated policy for the queried EID. Information returned in a Map-Reply is stored in the EID-to-RLOC Map-Cache.

**Negative Map-Reply:** a LISP Map-Reply message type that contains an empty locator-set. Returned in response to a Map-Request if the destination EID does not exist in the mapping database. Typically, this means that the "EID" being requested is an IP address connected to a non-LISP site. Information returned in a Negative Map-Reply is stored in the EID-to-RLOC Map-Cache.

## **5. LISP MIB Objectives**

The objectives for defining this LISP MIB module are as follows:

- o Provide a means for obtaining a list of enabled LISP features and the current status of configuration attributes related to those features. As an example, LISP capabilities which could be enabled include ITR, ETR, PITR, PETR, MS or MR support for IPv4 or IPv6 address families. Other examples include, indicating whether rloc-probing is enabled, and indicating the configured map-cache limit value.
- o Provide a means for obtaining the current attributes of various LISP tables, such as the EID-to-RLOC policy data contained in the Map-Cache, or the local EID-to-RLOC policy data contained in the Mapping-Database.
- o Provide a means for obtaining the current operational statistics of various LISP functions, such as the number of packets encapsulated and decapsulated by the device. Other counters of operational interest, depending on LISP function, include things like the current number of map-cache entries, and the total number and rate of map-requests received and sent.

## **6. Structure of LISP MIB Module**

### **6.1. Overview of Defined Notifications**

No LISP MIB notifications are defined.



## **6.2. Overview of Defined Tables**

The LISP MIB module is composed of the following tables of objects:

`lispFeatures` - This table provides information representing the various lisp features that can be enabled on LISP devices.

`lispIidToVrf` - This table provides information representing the mapping of a LISP instance ID to a VRF (Virtual Routing/Forwarding).

`lispGlobalStats` - This table provides global statistics for a given Instance ID per address-family on a LISP device.

`lispMappingDatabase` - This table represents the EID-to-RLOC database that contains the EID-prefix to RLOC mappings configured on an ETR. In general, this table would be representative of all such mappings for a given site that this device belongs to.

`lispMappingDatabaseLocator` - This table represents the set of routing locators contained in the EID-to-RLOC database configured on an ETR.

`lispMapCache` - This table represents the short-lived, on-demand table on an ITR that stores, tracks, and is responsible for timing-out and otherwise validating EID-to-RLOC mappings.

`lispMapCacheLocator` - This table represents the set of locators per EID prefix contained in the map-cache table of an ITR.

`lispConfiguredLocator` - This table represents the set of routing locators configured on a LISP device.

`lispEidRegistration` - This table provides the properties of each EID prefix that is registered with this device when configured to be a Map-Server.

`lispEidRegistrationEtr` - This table provides the properties of the different ETRs that send registers, for a given EID prefix, to this device when configured to be a Map-Server.

`lispEidRegistrationLocator` - This table provides the properties of the different locators per EID prefix that is registered with this device when configured to be a Map-Server.



lispUseMapServer - This table provides the properties of all Map-Servers that this device is configured to use.

lispUseMapResolver - This table provides the properties of all Map-Resolvers that this device is configured to use.

lispUseProxyEtr - This table provides the properties of all Proxy ETRs that this device is configured to use.

## 7. LISP MIB Definitions

LISP-MIB DEFINITIONS ::= BEGIN

### IMPORTS

```
MODULE-IDENTITY, OBJECT-TYPE,
mib-2, Unsigned32, Counter64,
Integer32, TimeTicks          FROM SNMPv2-SMI          -- [RFC2578]
TruthValue, TEXTUAL-CONVENTION,
TimeStamp                     FROM SNMPv2-TC           -- [RFC2579]
MODULE-COMPLIANCE, OBJECT-GROUP FROM SNMPv2-CONF       -- [RFC2580]
MplsL3VpnName
    FROM MPLS-L3VPN-STD-MIB    -- [RFC4382]
AddressFamilyNumbers
    FROM IANA-ADDRESS-FAMILY-NUMBERS-MIB;              -- [IANA]
```

### lispMIB MODULE-IDENTITY

```
LAST-UPDATED "201301030000Z" -- 03 January 2013
ORGANIZATION
    "IETF Locator/ID Separation Protocol (LISP) Working Group"
CONTACT-INFO
    "Email: lisp@ietf.org
    WG charter:
    http://www.ietf.org/html.charters/lisp-charter.html"
```

### DESCRIPTION

"Locator/ID Separation Protocol (LISP) MIB Textual Conventions module. The LISP MIB is intended for management of LISP routers.

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REVISION "201301030000Z" -- 03 January 2013

DESCRIPTION "Initial version of the IETF LISP-MIB module. Published as RFC xxxx."

-- RFC Ed.: RFC-editor pls fill in xxxx

::= { mib-2 XXX }

-- RFC Ed.: assigned by IANA, see [section 10](#) for details

--



-- Textual Conventions  
--

LispAddressType ::= TEXTUAL-CONVENTION

DISPLAY-HINT "39a"

STATUS current

DESCRIPTION

"LISP architecture can be applied to a wide variety of address-families. This textual-convention is a generalization for representing addresses that belong to those address-families. For convenience, this document refers to any such address as a LISP address. LispAddressType textual-convention consists of the following four-tuple:

1. IANA Address Family Number: A field of length 2-octets, whose value is of the form following the assigned AddressFamilyNumbers textual-convention described in [\[IANA\]](#). The enumerations are listed in [\[IANA\]](#). Note that this list of address family numbers is maintained by IANA.
2. Length of LISP address: A field of length 1-octet, whose value indicates the octet-length of the next (third) field of this LispAddressType four-tuple.
3. LISP address: A field of variable length as indicated in the previous (second) field, whose value is an address of the IANA Address Family indicated in the first field of this LispAddressType four-tuple. Note that any of the IANA Address Families can be represented. Particularly when the address family is LISP Canonical Address Format (LCAF) [\[LCAF\]](#) with IANA assigned Address Family Number 16387, then the first octet of this field indicates the LCAF type, and the rest of this field is same as the encoding format of the LISP Canonical Address after the length field, as defined in [\[LCAF\]](#).
4. Mask-length of address: A field of length 1-octet, whose value is the mask-length to be applied to the LISP address specified in the previous (third) field.

To illustrate the use of this object, consider the LISP MIB Object below entitled lispMapCacheEntry. This object begins with the following entities:

```
lispMapCacheEntry ::= SEQUENCE {  
    lispMapCacheEidLength      INTEGER,  
    lispMapCacheEid            LispAddressType,  
    ... [skip] ...
```

Example 1: Suppose that the IPv4 EID prefix stored is 192.0.2.0/24. In this case, the values within lispMapCacheEntry would be:





```
lispMapCacheEidLength = 8
lispMapCacheEid = 1, 4, 192.0.2.0, 24
... [skip] ...
```

where 8 is the total length in octets of the next object (lispMapCacheEID of type LispAddressType). Then, the value 1 indicates the IPv4 AF (per [\[IANA\]](#)), the value 4 indicates that the AF is 4-octets in length, 192.0.2.0 is the IPv4 address, and the value 24 is the mask-length in bits. Note that the lispMapCacheEidLength value of 8 is used to compute the length of the fourth (last) field in lispMapCacheEid to be 1 octet - as computed by  $8 - (2 + 1 + 4) = 1$ .

Example 2: Suppose that the IPv6 EID prefix stored is 2001:db8:a::/48. In this case, the values within lispMapCacheEntry would be:

```
lispMapCacheEidLength = 20
lispMapCacheEid = 2, 16, 2001:db8:a::, 48
... [skip] ...
```

where 20 is the total length in octets of the next object (lispMapCacheEID of type LispAddressType). Then, the value 2 indicates the IPv4 AF (per [\[IANA\]](#)), the value 16 indicates that the AF is 16-octets in length, 2001:db8:a:: is the IPv6 address, and the value 48 is the mask-length in bits. Note that the lispMapCacheEidLength value of 20 is used to compute the length of the fourth (last) field in lispMapCacheEid to be 1 octet - as computed by  $20 - (2 + 1 + 16) = 1$ .

Example 3: As an example where LCAF is used, suppose that the IPv4 EID prefix stored is 192.0.2.0/24 and it is part of LISP Instance ID 101. In this case, the values within lispMapCacheEntry would be:

```
lispMapCacheEidLength = 11
lispMapCacheEid = 16387, 7, 2, 101, 1, 192.0.2.0, 24
... [skip] ...
```

where 11 is the total length in octets of the next object (lispMapCacheEID of type LispAddressType). Then, the value 16387 indicates the LCAF AF (see [\[IANA\]](#)), the value 7 indicates that the LCAF AF is 7-octets in length in this case, 2 indicates that LCAF Type 2 encoding is used (see [\[LCAF\]](#)), 101 gives the Instance ID, 1 gives the AFI (per [\[IANA\]](#)) for an IPv4 address, 192.0.2.0 is the IPv4



address, and 24 is the mask-length in bits. Note that the lispMapCacheEidLength value of 11 octets is used to compute the length of the last field in lispMapCacheEid to be 1 octet, as computed by  $11 - (2 + 1 + 1 + 1 + 1 + 1 + 4) = 1$ ."

## REFERENCE

["draft-ietf-lisp-23.txt, Section 14.2,](#)  
[draft-ietf-lisp-lcaf-00.txt."](#)

SYNTAX OCTET STRING (SIZE (5..39))

--

-- Top level components of this MIB.

--

lispObjects OBJECT IDENTIFIER ::= { lispMIB 1 }

lispConformance OBJECT IDENTIFIER ::= { lispMIB 2 }

lispFeaturesTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispFeaturesEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table represents the various LISP features  
that can be enabled on LISP devices."

REFERENCE

["draft-ietf-lisp-23.txt, Section 4.0., Section 5.5.,](#)  
[Section 6.3."](#)

::= { lispObjects 1 }

lispFeaturesEntry OBJECT-TYPE

SYNTAX LispFeaturesEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry (conceptual row) in the lispFeaturesTable."

INDEX { lispFeaturesInstanceID,  
lispFeaturesAddressFamily }

::= { lispFeaturesTable 1 }

LispFeaturesEntry ::= SEQUENCE {

lispFeaturesInstanceID	Unsigned32,
lispFeaturesAddressFamily	AddressFamilyNumbers,
lispFeaturesItrEnabled	TruthValue,
lispFeaturesEtrEnabled	TruthValue,
lispFeaturesProxyItrEnabled	TruthValue,
lispFeaturesProxyEtrEnabled	TruthValue,



```
lispFeaturesMapServerEnabled      TruthValue,
lispFeaturesMapResolverEnabled    TruthValue,
lispFeaturesMapCacheSize          Unsigned32,
lispFeaturesMapCacheLimit         Unsigned32,
lispFeaturesEtrMapCacheTtl        Unsigned32,
lispFeaturesRlocProbeEnabled       TruthValue,
lispFeaturesEtrAcceptMapDataEnabled TruthValue,
lispFeaturesEtrAcceptMapDataVerifyEnabled TruthValue,
lispFeaturesRouterTimeStamp        TimeStamp
}
```

**lispFeaturesInstanceID OBJECT-TYPE**

SYNTAX Unsigned32 (0..16777215)

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"This represents the Instance ID of the LISP header.  
An Instance ID in the LISP address encoding helps  
uniquely identify the AFI-based address space to which  
a given EID belongs. It's default value is 0."

::= { lispFeaturesEntry 1 }

**lispFeaturesAddressFamily OBJECT-TYPE**

SYNTAX AddressFamilyNumbers

MAX-ACCESS not-accessible

STATUS current

**DESCRIPTION**

"The IANA address family number of destination address  
of packets that this LISP device is enabled to process."

::= { lispFeaturesEntry 2 }

**lispFeaturesItrEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"Indicates the status of ITR role on this device. If  
this object is TRUE, then ITR feature is enabled."

::= { lispFeaturesEntry 3 }

**lispFeaturesEtrEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"Indicates the status of ETR role on this device. If  
this object is TRUE, then ETR feature is enabled."

::= { lispFeaturesEntry 4 }



**lispFeaturesProxyItrEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates the status of Proxy-ITR role on this device.

If this object is TRUE, then Proxy-ITR feature is enabled."

::= { lispFeaturesEntry 5 }

**lispFeaturesProxyEtrEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates the status of Proxy-ETR role on this device.

If this object is TRUE, then Proxy-ETR feature is enabled."

::= { lispFeaturesEntry 6 }

**lispFeaturesMapServerEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates the status of Map Server role on this device.

If this object is TRUE, then Map Server feature is enabled."

::= { lispFeaturesEntry 7 }

**lispFeaturesMapResolverEnabled OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates the status of Map Resolver role on this device.

If this object is TRUE, then Map Resolver feature is enabled."

::= { lispFeaturesEntry 8 }

**lispFeaturesMapCacheSize OBJECT-TYPE**

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Size of EID-to-RLLOC map cache on this device."

::= { lispFeaturesEntry 9 }

**lispFeaturesMapCacheLimit OBJECT-TYPE**

SYNTAX Unsigned32





MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Maximum permissible entries in EID-to-RLOC map cache on  
    this device."  
::= { lispFeaturesEntry 10 }

lispFeaturesEtrMapCacheTtl OBJECT-TYPE

SYNTAX Unsigned32  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The stored Record TTL of the EID-to-RLOC map record in  
    the map cache."  
::= { lispFeaturesEntry 11 }

lispFeaturesRlocProbeEnabled OBJECT-TYPE

SYNTAX TruthValue  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Indicates the status of rloc-probing feature on this device.  
    If this object is TRUE, then this feature is enabled."  
::= { lispFeaturesEntry 12 }

lispFeaturesEtrAcceptMapDataEnabled OBJECT-TYPE

SYNTAX TruthValue  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Indicates the status of accepting piggybacked mapping data  
    received in a map-request on this device. If this object is  
    TRUE, then this device accepts piggybacked mapping data."  
::= { lispFeaturesEntry 13 }

lispFeaturesEtrAcceptMapDataVerifyEnabled OBJECT-TYPE

SYNTAX TruthValue  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Indicates the status of verifying accepted piggybacked  
    mapping data received in a map-request on this device. If  
    this object is TRUE, then this device verifies accepted  
    piggybacked mapping data."  
::= { lispFeaturesEntry 14 }

lispFeaturesRouterTimeStamp OBJECT-TYPE

SYNTAX TimeStamp



MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The value of sysUpTime at which LISP feature was enabled  
on this device.

If this information was present at the most recent  
re-initialization of the local management subsystem,  
then this object contains a zero value."

::= { lispFeaturesEntry 15 }

## lispIidToVrfTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispIidToVrfEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table represents the mapping of LISP Instance ID to a VRF."

## REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 5.5](#)."

::= { lispObjects 2 }

## lispIidToVrfEntry OBJECT-TYPE

SYNTAX LispIidToVrfEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"An entry (conceptual row) in the lispIidToVrfTable."

INDEX { lispFeaturesInstanceID }

::= { lispIidToVrfTable 1 }

LispIidToVrfEntry ::= SEQUENCE {

lispIidToVrfName

MplsL3VpnName

}

## lispIidToVrfName OBJECT-TYPE

SYNTAX MplsL3VpnName

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The identifier for each VPN that is mapped to the given LISP Instance ID."

::= { lispIidToVrfEntry 2 }

## REFERENCE

"[RFC 4382](#), [Section 7](#)."

## lispGlobalStatsTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispGlobalStatsEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table provides global statistics for a given Instance ID per address-family on a LISP device."

## REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 6.1](#)."

::= { lispObjects 3 }

## lispGlobalStatsEntry OBJECT-TYPE



```
SYNTAX      LispGlobalStatsEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "An entry (conceptual row) in the
    lispGlobalStatsTable."
INDEX       { lispFeaturesInstanceID,
              lispFeaturesAddressFamily }
 ::= { lispGlobalStatsTable 1 }

LispGlobalStatsEntry ::= SEQUENCE {
    lispGlobalStatsMapRequestsIn      Counter64,
    lispGlobalStatsMapRequestsOut     Counter64,
    lispGlobalStatsMapRepliesIn       Counter64,
    lispGlobalStatsMapRepliesOut      Counter64,
    lispGlobalStatsMapRegistersIn     Counter64,
    lispGlobalStatsMapRegistersOut    Counter64
}

lispGlobalStatsMapRequestsIn OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of map requests received by this device for
        any EID prefix of the given address family and Instance ID.

        Discontinuities in this monotonically increasing value occur
        at re-initialization of the management system.
        Discontinuities can also occur as a result of LISP features
        being removed, which can be detected by observing the value
        of lispFeaturesRouterTimeStamp."
    ::= { lispGlobalStatsEntry 1 }

lispGlobalStatsMapRequestsOut OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of map requests sent by this device for any
        EID prefix of the given address family and Instance ID.

        Discontinuities in this monotonically increasing value occur
        at re-initialization of the management system.
        Discontinuities can also occur as a result of LISP features
        being removed, which can be detected by observing the value
        of lispFeaturesRouterTimeStamp."
    ::= { lispGlobalStatsEntry 2 }
```





**lispGlobalStatsMapRepliesIn OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"Total number of map replies received by this device for any EID prefix of the given address family and Instance ID.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispFeaturesRouterTimeStamp."

::= { lispGlobalStatsEntry 3 }

**lispGlobalStatsMapRepliesOut OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"Total number of map replies sent by this device for any EID prefix of the given address family and Instance ID.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispFeaturesRouterTimeStamp."

::= { lispGlobalStatsEntry 4 }

**lispGlobalStatsMapRegistersIn OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"Total number of map registers received by this device for any EID prefix of the given address family and Instance ID.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispFeaturesRouterTimeStamp."

::= { lispGlobalStatsEntry 5 }

**lispGlobalStatsMapRegistersOut OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only



STATUS current

DESCRIPTION

"Total number of map registers sent by this device for any EID prefix of the given address family and Instance ID.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispFeaturesRouterTimeStamp."

::= { lispGlobalStatsEntry 6 }

lispMappingDatabaseTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispMappingDatabaseEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table represents the EID-to-RLOC mapping database that contains the EID-prefix to RLOC mappings configured on an ETR. In general, this table would be representative of all such mappings for the given LISP site to which this device belongs."

REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 6.0](#)."

::= { lispObjects 4 }

lispMappingDatabaseEntry OBJECT-TYPE

SYNTAX LispMappingDatabaseEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry (conceptual row) in the lispMappingDatabaseTable."

INDEX { lispMappingDatabaseEidLength,  
lispMappingDatabaseEid }

::= { lispMappingDatabaseTable 1 }

LispMappingDatabaseEntry ::= SEQUENCE {

lispMappingDatabaseEidLength	Integer32,
lispMappingDatabaseEid	LispAddressType,
lispMappingDatabaseLsb	Unsigned32,
lispMappingDatabaseEidPartitioned	TruthValue,
lispMappingDatabaseTimeStamp	TimeStamp,
lispMappingDatabaseDecapOctets	Counter64,
lispMappingDatabaseDecapPackets	Counter64,
lispMappingDatabaseEncapOctets	Counter64,
lispMappingDatabaseEncapPackets	Counter64



```
}
```

```
lispMappingDatabaseEidLength OBJECT-TYPE
```

```
    SYNTAX      Integer32 (5..259)
```

```
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
```

```
    DESCRIPTION
```

```
        "This object gives the octet-length of  
        lispMappingDatabaseEid."
```

```
    ::= { lispMappingDatabaseEntry 1 }
```

```
lispMappingDatabaseEid OBJECT-TYPE
```

```
    SYNTAX      LispAddressType
```

```
    MAX-ACCESS  not-accessible
```

```
    STATUS      current
```

```
    DESCRIPTION
```

```
        "The EID prefix of the mapping database."
```

```
    ::= { lispMappingDatabaseEntry 2 }
```

```
lispMappingDatabaseLsb OBJECT-TYPE
```

```
    SYNTAX      Unsigned32 (0..4294967295)
```

```
    MAX-ACCESS  read-only
```

```
    STATUS      current
```

```
    DESCRIPTION
```

```
        "The locator status bits for this EID prefix."
```

```
    ::= { lispMappingDatabaseEntry 3 }
```

```
lispMappingDatabaseEidPartitioned OBJECT-TYPE
```

```
    SYNTAX      TruthValue
```

```
    MAX-ACCESS  read-only
```

```
    STATUS      current
```

```
    DESCRIPTION
```

```
        "Indicates if this device is partitioned from the site that  
        contains this EID prefix. If this object is TRUE, then it  
        means this device is partitioned from the site."
```

```
    ::= { lispMappingDatabaseEntry 4 }
```

```
lispMappingDatabaseTimeStamp OBJECT-TYPE
```

```
    SYNTAX      TimeStamp
```

```
    MAX-ACCESS  read-only
```

```
    STATUS      current
```

```
    DESCRIPTION
```

```
        "The value of sysUpTime at which the EID Prefix information  
        represented by this mapping database entry was configured  
        on this device.
```

```
        If this information was present at the most recent
```



re-initialization of the local management subsystem, then this object contains a zero value."  
 ::= { lispMappingDatabaseEntry 5 }

**lispMappingDatabaseDecapOctets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"The number of octets of LISP packets that were decapsulated by this device addressed to a host within this EID-prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispMappingDatabaseTimeStamp."

::= { lispMappingDatabaseEntry 6 }

**lispMappingDatabaseDecapPackets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"The number of LISP packets that were decapsulated by this device addressed to a host within this EID-prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispMappingDatabaseTimeStamp."

::= { lispMappingDatabaseEntry 7 }

**lispMappingDatabaseEncapOctets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"The number of octets of LISP packets that were encapsulated by this device, whose inner header source address matched this EID prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispMappingDatabaseTimeStamp."





```
::= { lispMappingDatabaseEntry 8 }
```

```
lispMappingDatabaseEncapPackets OBJECT-TYPE
```

```
SYNTAX      Counter64
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

"The number of LISP packets that were encapsulated by this device whose inner header source address matched this EID prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of LISP features being removed, which can be detected by observing the value of lispMappingDatabaseTimeStamp."

```
::= { lispMappingDatabaseEntry 9 }
```

```
lispMappingDatabaseLocatorTable OBJECT-TYPE
```

```
SYNTAX      SEQUENCE OF LispMappingDatabaseLocatorEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

"This table represents the set of routing locators per EID prefix contained in the EID-to-RLOC database configured on this ETR."

```
REFERENCE
```

"[draft-ietf-lisp-23.txt](#), [Section 6.2](#)."

```
::= { lispObjects 5 }
```

```
lispMappingDatabaseLocatorEntry OBJECT-TYPE
```

```
SYNTAX      LispMappingDatabaseLocatorEntry
```

```
MAX-ACCESS  not-accessible
```

```
STATUS      current
```

```
DESCRIPTION
```

"An entry (conceptual row) in the lispMappingDatabaseLocatorTable."

```
INDEX { lispMappingDatabaseEidLength,  
        lispMappingDatabaseEid,  
        lispMappingDatabaseLocatorRlocLength,  
        lispMappingDatabaseLocatorRloc }
```

```
::= { lispMappingDatabaseLocatorTable 1 }
```

```
LispMappingDatabaseLocatorEntry ::= SEQUENCE {
```

lispMappingDatabaseLocatorRlocLength	Integer32,
lispMappingDatabaseLocatorRloc	LispAddressType,
lispMappingDatabaseLocatorRlocPriority	Integer32,



```
lispMappingDatabaseLocatorRlocWeight      Integer32,
lispMappingDatabaseLocatorRlocMPriority   Integer32,
lispMappingDatabaseLocatorRlocMWeight     Integer32,
lispMappingDatabaseLocatorRlocState       INTEGER,
lispMappingDatabaseLocatorRlocLocal       INTEGER,
lispMappingDatabaseLocatorRlocTimeStamp   TimeStamp,
lispMappingDatabaseLocatorRlocDecapOctets Counter64,
lispMappingDatabaseLocatorRlocDecapPackets Counter64,
lispMappingDatabaseLocatorRlocEncapOctets Counter64,
lispMappingDatabaseLocatorRlocEncapPackets Counter64
}

lispMappingDatabaseLocatorRlocLength OBJECT-TYPE
    SYNTAX      Integer32 (5..259)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is used to get the octet-length of
        lispMappingDatabaseLocatorRloc."
    ::= { lispMappingDatabaseLocatorEntry 1 }

lispMappingDatabaseLocatorRloc OBJECT-TYPE
    SYNTAX      LispAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a locator for the given EID prefix in the
        mapping database."
    ::= { lispMappingDatabaseLocatorEntry 2 }

lispMappingDatabaseLocatorRlocPriority OBJECT-TYPE
    SYNTAX      Integer32 (0..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The unicast priority of the RLOC."
    ::= { lispMappingDatabaseLocatorEntry 3 }

lispMappingDatabaseLocatorRlocWeight OBJECT-TYPE
    SYNTAX      Integer32 (0..100)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The unicast weight of the RLOC."
    ::= { lispMappingDatabaseLocatorEntry 4 }

lispMappingDatabaseLocatorRlocMPriority OBJECT-TYPE
    SYNTAX      Integer32 (0..255)
```



MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The multicast priority of the RLOC."  
::= { lispMappingDatabaseLocatorEntry 5 }

lispMappingDatabaseLocatorRlocMWeight OBJECT-TYPE

SYNTAX Integer32 (0..100)  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The multicast weight of the RLOC."  
::= { lispMappingDatabaseLocatorEntry 6 }

lispMappingDatabaseLocatorRlocState OBJECT-TYPE

SYNTAX INTEGER {  
    up (1),  
    down (2),  
    unreachable (3)  
}  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The state of this RLOC as per this device.  
    (1 = RLOC is up; 2 = RLOC is down; 3 = RLOC is unreachable)."  
::= { lispMappingDatabaseLocatorEntry 7 }

lispMappingDatabaseLocatorRlocLocal OBJECT-TYPE

SYNTAX INTEGER {  
    siteself (1),  
    sitelocal (2)  
}  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Indicates whether the RLOC is local to this device  
    (or remote, meaning local to another device in the same LISP  
    site). (1 = RLOC is an address on this device; 2 = RLOC is  
    an address on another device)."  
::= { lispMappingDatabaseLocatorEntry 8 }

lispMappingDatabaseLocatorRlocTimeStamp OBJECT-TYPE

SYNTAX TimeStamp  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The value of sysUpTime at which the RLOC of the EID Prefix  
    represented by this mapping database entry was configured"



on this device.

If this information was present at the most recent re-initialization of the local management subsystem, then this object contains a zero value."

::= { lispMappingDatabaseLocatorEntry 9 }

lispMappingDatabaseLocatorRlocDecapOctets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets of LISP packets that were addressed to this RLOC of the EID-prefix and were decapsulated.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of database mappings getting re-configured or RLOC status changes, which can be detected by observing the value of lispMappingDatabaseLocatorRlocTimeStamp."

::= { lispMappingDatabaseLocatorEntry 10 }

lispMappingDatabaseLocatorRlocDecapPackets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of LISP packets that were addressed to this RLOC of the EID-prefix and were decapsulated.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of database mappings getting re-configured or RLOC status changes, which can be detected by observing the value of lispMappingDatabaseLocatorRlocTimeStamp."

::= { lispMappingDatabaseLocatorEntry 11 }

lispMappingDatabaseLocatorRlocEncapOctets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets of LISP packets that were encapsulated by this device using this RLOC address as the source, and that were sourced by an address of this EID-prefix.





Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of database mappings getting re-configured or RLOC status changes, which can be detected by observing the value of `lispMappingDatabaseLocatorRlocTimeStamp`."

::= { lispMappingDatabaseLocatorEntry 12 }

#### `lispMappingDatabaseLocatorRlocEncapPackets` OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

##### DESCRIPTION

"The number of LISP packets that were encapsulated by this device using this RLOC address as the source, and that were sourced by an address of this EID-prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of database mappings getting re-configured or RLOC status changes, which can be detected by observing the value of `lispMappingDatabaseLocatorRlocTimeStamp`."

::= { lispMappingDatabaseLocatorEntry 13 }

#### `lispMapCacheTable` OBJECT-TYPE

SYNTAX SEQUENCE OF `LispMapCacheEntry`

MAX-ACCESS not-accessible

STATUS current

##### DESCRIPTION

"This table represents the short-lived, on-demand table on an ITR that stores, tracks, and is responsible for timing-out and otherwise validating EID-to-RLOC mappings."

##### REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 6.0.](#), [Section 12.0.](#)"

::= { lispObjects 6 }

#### `lispMapCacheEntry` OBJECT-TYPE

SYNTAX `LispMapCacheEntry`

MAX-ACCESS not-accessible

STATUS current

##### DESCRIPTION

"An entry (conceptual row) in the `lispMapCacheTable`."

INDEX { `lispMapCacheEidLength`,  
          `lispMapCacheEid` }

::= { lispMapCacheTable 1 }



```
LispMapCacheEntry ::= SEQUENCE {  
    lispMapCacheEidLength      Integer32,  
    lispMapCacheEid            LispAddressType,  
    lispMapCacheEidTimeStamp   TimeStamp,  
    lispMapCacheEidExpiryTime  TimeTicks,  
    lispMapCacheEidState       TruthValue,  
    lispMapCacheEidAuthoritative TruthValue,  
    lispMapCacheEidDecapOctets Counter64,  
    lispMapCacheEidDecapPackets Counter64,  
    lispMapCacheEidEncapOctets Counter64,  
    lispMapCacheEidEncapPackets Counter64  
}
```

```
lispMapCacheEidLength OBJECT-TYPE  
    SYNTAX      Integer32 (5..259)  
    MAX-ACCESS  not-accessible  
    STATUS      current  
    DESCRIPTION  
        "This object is used to get the octet-length of  
        lispMapCacheEid."  
    ::= { lispMapCacheEntry 1 }
```

```
lispMapCacheEid OBJECT-TYPE  
    SYNTAX      LispAddressType  
    MAX-ACCESS  not-accessible  
    STATUS      current  
    DESCRIPTION  
        "The EID prefix in the mapping cache."  
    ::= { lispMapCacheEntry 2 }
```

```
lispMapCacheEidTimeStamp OBJECT-TYPE  
    SYNTAX      TimeStamp  
    MAX-ACCESS  read-only  
    STATUS      current  
    DESCRIPTION  
        "The value of sysUpTime at which the EID Prefix information  
        represented by this entry was learned by this device.  
  
        If this information was present at the most recent  
        re-initialization of the local management subsystem, then  
        this object contains a zero value."  
    ::= { lispMapCacheEntry 3 }
```

```
lispMapCacheEidExpiryTime OBJECT-TYPE  
    SYNTAX      TimeTicks  
    MAX-ACCESS  read-only  
    STATUS      current  
    DESCRIPTION
```



"The time remaining before the ITR times-out this  
EID prefix."  
::= { lispMapCacheEntry 4 }

**lispMapCacheEidState OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"This object is used to indicate the activity of this EID  
prefix. If this object is TRUE, then it means this EID  
prefix is seeing activity."

::= { lispMapCacheEntry 5 }

**lispMapCacheEidAuthoritative OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"This object is used to indicate whether the EID prefix was  
installed by an authoritative map-reply. If this object is  
TRUE, then it means this EID prefix was installed by an  
authoritative map-reply."

::= { lispMapCacheEntry 6 }

**lispMapCacheEidDecapOctets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"The number of octets of LISP packets that were decapsulated  
by this device and were sourced from a remote host within  
this EID-prefix.

Discontinuities in this monotonically increasing value occur  
at re-initialization of the management system.

Discontinuities can also occur as a result of cache being  
removed and replaced, which can be detected by observing the  
value of lispMapCacheEidTimeStamp."

::= { lispMapCacheEntry 7 }

**lispMapCacheEidDecapPackets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

**DESCRIPTION**

"The number of LISP packets that were decapsulated by this  
device and were sourced from a remote host within this



EID-prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of cache being removed and replaced, which can be detected by observing the value of lispMapCacheEidTimeStamp."

::= { lispMapCacheEntry 8 }

**lispMapCacheEidEncapOctets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets of LISP packets that were encapsulated by this device using the given EID-prefix in the map cache.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of cache being removed and replaced, which can be detected by observing the value of lispMapCacheEidTimeStamp."

::= { lispMapCacheEntry 9 }

**lispMapCacheEidEncapPackets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of LISP packets that were encapsulated by this device using the given EID-prefix in the map cache.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of cache being removed and replaced, which can be detected by observing the value of lispMapCacheEidTimeStamp."

::= { lispMapCacheEntry 10 }

**lispMapCacheLocatorTable OBJECT-TYPE**

SYNTAX SEQUENCE OF LispMapCacheLocatorEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table represents the set of locators per EID prefix contained in the map-cache table of an ITR."

REFERENCE





["draft-ietf-lisp-23.txt, Section 6.3."](#)  
 ::= { lispObjects 7 }

lispMapCacheLocatorEntry OBJECT-TYPE

SYNTAX LispMapCacheLocatorEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry (conceptual row) in the  
lispMapCacheLocatorTable."

INDEX { lispMapCacheEidLength,  
lispMapCacheEid,  
lispMapCacheLocatorRlocLength,  
lispMapCacheLocatorRloc }

::= { lispMapCacheLocatorTable 1 }

LispMapCacheLocatorEntry ::= SEQUENCE {

lispMapCacheLocatorRlocLength	Integer32,
lispMapCacheLocatorRloc	LispAddressType,
lispMapCacheLocatorRlocPriority	Integer32,
lispMapCacheLocatorRlocWeight	Integer32,
lispMapCacheLocatorRlocMPriority	Integer32,
lispMapCacheLocatorRlocMWeight	Integer32,
lispMapCacheLocatorRlocState	INTEGER,
lispMapCacheLocatorRlocTimeStamp	TimeStamp,
lispMapCacheLocatorRlocLastPriorityChange	TimeTicks,
lispMapCacheLocatorRlocLastWeightChange	TimeTicks,
lispMapCacheLocatorRlocLastMPriorityChange	TimeTicks,
lispMapCacheLocatorRlocLastMWeightChange	TimeTicks,
lispMapCacheLocatorRlocLastStateChange	TimeTicks,
lispMapCacheLocatorRlocRtt	TimeTicks,
lispMapCacheLocatorRlocDecapOctets	Counter64,
lispMapCacheLocatorRlocDecapPackets	Counter64,
lispMapCacheLocatorRlocEncapOctets	Counter64,
lispMapCacheLocatorRlocEncapPackets	Counter64

}

lispMapCacheLocatorRlocLength OBJECT-TYPE

SYNTAX Integer32 (5..259)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is used to get the octet-length of  
lispMapCacheLocatorRloc."

::= { lispMapCacheLocatorEntry 1 }

lispMapCacheLocatorRloc OBJECT-TYPE

SYNTAX LispAddressType



```
MAX-ACCESS not-accessible
STATUS      current
DESCRIPTION
    "The locator for the EID prefix in the mapping cache."
::= { lispMapCacheLocatorEntry 2 }
```

**lispMapCacheLocatorRlocPriority OBJECT-TYPE**

```
SYNTAX      Integer32 (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The unicast priority of the RLOC for this EID prefix
    (0-255); lower more preferred. "
::= { lispMapCacheLocatorEntry 3 }
```

**lispMapCacheLocatorRlocWeight OBJECT-TYPE**

```
SYNTAX      Integer32 (0..100)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The unicast weight of the RLOC for this EID prefix
    (0 - 100) percentage. "
::= { lispMapCacheLocatorEntry 4 }
```

**lispMapCacheLocatorRlocMPriority OBJECT-TYPE**

```
SYNTAX      Integer32 (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The multicast priority of the RLOC for this EID prefix
    (0-255); lower more preferred."
::= { lispMapCacheLocatorEntry 5 }
```

**lispMapCacheLocatorRlocMWeight OBJECT-TYPE**

```
SYNTAX      Integer32 (0..100)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The multicast weight of the RLOC for this EID prefix
    (0 - 100) percentage."
::= { lispMapCacheLocatorEntry 6 }
```

**lispMapCacheLocatorRlocState OBJECT-TYPE**

```
SYNTAX      INTEGER {
                up (1),
                down (2),
                unreachable (3)
            }
```



MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The state of this RLOC as per this device  
    (1 = RLOC is up; 2 = RLOC is down)."  
 ::= { lispMapCacheLocatorEntry 7 }

**lispMapCacheLocatorRlocTimeStamp OBJECT-TYPE**

SYNTAX TimeStamp  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The value of sysUpTime at which the RLOC of EID prefix  
    information represented by this entry was learned by  
    this device.  
  
    If this information was present at the most recent  
    re-initialization of the local management subsystem,  
    then this object contains a zero value."  
 ::= { lispMapCacheLocatorEntry 8 }

**lispMapCacheLocatorRlocLastPriorityChange OBJECT-TYPE**

SYNTAX TimeTicks  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Time elapsed since the last change of the unicast priority  
    of the RLOC for this EID prefix. Note that this is  
    independent of lispMapCacheLocatorRlocTimeStamp."  
 ::= { lispMapCacheLocatorEntry 9 }

**lispMapCacheLocatorRlocLastWeightChange OBJECT-TYPE**

SYNTAX TimeTicks  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Time elapsed since the last change of the unicast weight  
    of the RLOC for this EID prefix. Note that this is  
    independent of lispMapCacheLocatorRlocTimeStamp."  
 ::= { lispMapCacheLocatorEntry 10 }

**lispMapCacheLocatorRlocLastMPriorityChange OBJECT-TYPE**

SYNTAX TimeTicks  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Time since the last change of the multicast priority of the  
    RLOC for this EID prefix."



```
::= { lispMapCacheLocatorEntry 11 }
```

**lispMapCacheLocatorRlocLastMWeightChange OBJECT-TYPE**

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time since the last change of the multicast weight of the  
RLOC for this EID prefix."

```
::= { lispMapCacheLocatorEntry 12 }
```

**lispMapCacheLocatorRlocLastStateChange OBJECT-TYPE**

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time since the last change of the up/down state of the  
RLOC for this EID prefix."

```
::= { lispMapCacheLocatorEntry 13 }
```

**lispMapCacheLocatorRlocRtt OBJECT-TYPE**

SYNTAX TimeTicks

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Round trip time of RLOC probe and map-reply for this RLOC  
address for this prefix."

```
::= { lispMapCacheLocatorEntry 14 }
```

**lispMapCacheLocatorRlocDecapOctets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets of LISP packets that were decapsulated  
by this device and were sourced from a remote host within  
this EID-prefix and were encapsulated for this RLOC."

Discontinuities in this monotonically increasing value occur  
at re-initialization of the management system.

Discontinuities can also occur as a result of RLOC of cache  
being removed and replaced, which can be detected by  
observing the value of lispMapCacheLocatorRlocTimeStamp."

```
::= { lispMapCacheLocatorEntry 15 }
```

**lispMapCacheLocatorRlocDecapPackets OBJECT-TYPE**

SYNTAX Counter64

MAX-ACCESS read-only





STATUS current

DESCRIPTION

"The number of LISP packets that were decapsulated by this device and were sourced from a remote host within this EID-prefix and were encapsulated for this RLOC.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of RLOC of cache being removed and replaced, which can be detected by observing the value of lispMapCacheLocatorRlocTimeStamp."

::= { lispMapCacheLocatorEntry 16 }

lispMapCacheLocatorRlocEncapOctets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of octets of LISP packets that matched this EID prefix and were encapsulated using this RLOC address.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of RLOC of cache being removed and replaced, which can be detected by observing the value of lispMapCacheLocatorRlocTimeStamp."

::= { lispMapCacheLocatorEntry 17 }

lispMapCacheLocatorRlocEncapPackets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of LISP packets that matched this EID prefix and were encapsulated using this RLOC address.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of RLOC of cache being removed and replaced, which can be detected by observing the value of lispMapCacheLocatorRlocTimeStamp."

::= { lispMapCacheLocatorEntry 18 }

lispConfiguredLocatorTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispConfiguredLocatorEntry

MAX-ACCESS not-accessible

STATUS current



## DESCRIPTION

"This table represents the set of routing locators configured on this device. Note that the Proxy-ITR configured addresses are treated as routing locators and therefore can be part of this table."

## REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 6.3](#)."

::= { lispObjects 8 }

## lispConfiguredLocatorEntry OBJECT-TYPE

SYNTAX LispConfiguredLocatorEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"An entry (conceptual row) in the lispConfiguredLocatorTable."

INDEX { lispConfiguredLocatorRlocLength,  
lispConfiguredLocatorRloc }

::= { lispConfiguredLocatorTable 1 }

## LispConfiguredLocatorEntry ::= SEQUENCE {

lispConfiguredLocatorRlocLength	Integer32,
lispConfiguredLocatorRloc	LispAddressType,
lispConfiguredLocatorRlocState	INTEGER,
lispConfiguredLocatorRlocLocal	INTEGER,
lispConfiguredLocatorRlocTimeStamp	TimeStamp,
lispConfiguredLocatorRlocDecapOctets	Counter64,
lispConfiguredLocatorRlocDecapPackets	Counter64,
lispConfiguredLocatorRlocEncapOctets	Counter64,
lispConfiguredLocatorRlocEncapPackets	Counter64

}

## lispConfiguredLocatorRlocLength OBJECT-TYPE

SYNTAX Integer32 (5..259)

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This object is used to get the octet-length of lispConfiguredLocatorRloc."

::= { lispConfiguredLocatorEntry 1 }

## lispConfiguredLocatorRloc OBJECT-TYPE

SYNTAX LispAddressType

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This object is a RLOC address configured on this device. It can be an RLOC that is local to this device or can be an



RLOC which belongs to another ETR within the same site.  
Proxy-ITR address is treated as an RLOC."  
 ::= { lispConfiguredLocatorEntry 2 }

**lispConfiguredLocatorRlocState OBJECT-TYPE**

SYNTAX INTEGER {  
    up (1),  
    down (2),  
    unreachable (3)  
}  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The state of this RLOC as per this device. (1 = RLOC is up;  
    2 = RLOC is down; 3 = RLOC is unreachable)."  
 ::= { lispConfiguredLocatorEntry 3 }

**lispConfiguredLocatorRlocLocal OBJECT-TYPE**

SYNTAX INTEGER {  
    siteself (1),  
    sitelocal (2)  
}  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "Indicates whether the RLOC is local to this device (or  
    remote, meaning local to another device in the same LISP  
    site). (1 = RLOC is an address on this device; 2 = RLOC is  
    an address on another device)."  
 ::= { lispConfiguredLocatorEntry 4 }

**lispConfiguredLocatorRlocTimeStamp OBJECT-TYPE**

SYNTAX TimeStamp  
MAX-ACCESS read-only  
STATUS current  
DESCRIPTION  
    "The value of sysUpTime at which the RLOC was configured on  
    this device.  
  
    If this information was present at the most recent  
    re-initialization of the local management subsystem, then  
    this object contains a zero value."  
 ::= { lispConfiguredLocatorEntry 5 }

**lispConfiguredLocatorRlocDecapOoctets OBJECT-TYPE**

SYNTAX Counter64  
MAX-ACCESS read-only  
STATUS current



## DESCRIPTION

"The number of octets of LISP packets that were addressed to this RLOC and were decapsulated.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of configured RLOC being removed and replaced, which can be detected by observing the value of lispConfiguredLocatorRlocTimeStamp."

::= { lispConfiguredLocatorEntry 6 }

## lispConfiguredLocatorRlocDecapPackets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The number of LISP packets that were addressed to this RLOC and were decapsulated.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of configured RLOC being removed and replaced, which can be detected by observing the value of lispConfiguredLocatorRlocTimeStamp."

::= { lispConfiguredLocatorEntry 7 }

## lispConfiguredLocatorRlocEncapOctets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The number of octets of LISP packets that were encapsulated by this device using this RLOC address as the source.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of configured RLOC being removed and replaced, which can be detected by observing the value of lispConfiguredLocatorRlocTimeStamp."

::= { lispConfiguredLocatorEntry 8 }

## lispConfiguredLocatorRlocEncapPackets OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The number of LISP packets that were encapsulated by this device using this RLOC address as the source.





Discontinuities in this monotonically increasing value occur at re-initialization of the management system.  
Discontinuities can also occur as a result of configured RLOC being removed and replaced, which can be detected by observing the value of lispConfiguredLocatorRlocTimeStamp."  
::= { lispConfiguredLocatorEntry 9 }

lispEidRegistrationTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispEidRegistrationEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides the properties of each LISP EID prefix that is registered with this device when configured to be a Map-Server."

REFERENCE

["draft-ietf-lisp-ms-16.txt, Section 4.0."](#)

::= { lispObjects 9 }

lispEidRegistrationEntry OBJECT-TYPE

SYNTAX LispEidRegistrationEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry (conceptual row) in the lispEidRegistrationTable."

INDEX { lispEidRegistrationEidLength,  
lispEidRegistrationEid }

::= { lispEidRegistrationTable 1 }

LispEidRegistrationEntry ::= SEQUENCE {

lispEidRegistrationEidLength	Integer32,
lispEidRegistrationEid	LispAddressType,
lispEidRegistrationSiteName	OCTET STRING,
lispEidRegistrationSiteDescription	OCTET STRING,
lispEidRegistrationIsRegistered	TruthValue,
lispEidRegistrationFirstTimeStamp	TimeStamp,
lispEidRegistrationLastTimeStamp	TimeStamp,
lispEidRegistrationLastRegisterSenderLength	Integer32,
lispEidRegistrationLastRegisterSender	LispAddressType,
lispEidRegistrationAuthenticationErrors	Counter64,
lispEidRegistrationRlocsMismatch	Counter64

}

lispEidRegistrationEidLength OBJECT-TYPE

SYNTAX Integer32 (5..259)

MAX-ACCESS not-accessible



```
STATUS      current
DESCRIPTION
    "This object is used to get the octet-length of
    lispEidRegistrationEid."
 ::= { lispEidRegistrationEntry 1 }

lispEidRegistrationEid OBJECT-TYPE
    SYNTAX      LispAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The EID prefix that is being registered."
    ::= { lispEidRegistrationEntry 2 }

lispEidRegistrationSiteName OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(0..63))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Site name used by a Map-Server to distinguish different
        LISP sites that are registering with it."
    ::= { lispEidRegistrationEntry 3 }

lispEidRegistrationSiteDescription OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(0..255))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Description for a site name used by a Map-Server. The EID
        prefix that is being registered belongs to this site."
    ::= { lispEidRegistrationEntry 4 }

lispEidRegistrationIsRegistered OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Indicates the registration status of the given EID prefix.
        If this object is TRUE, then it means the EID prefix is
        registered.

        The value FALSE implies the EID prefix is not registered
        with the Map Server. There are multiple scenarios when this
        could happen like authentication failures, routing problems,
        misconfigs to name a few."
    ::= { lispEidRegistrationEntry 5 }

lispEidRegistrationFirstTimeStamp OBJECT-TYPE
```



SYNTAX       TimeStamp  
MAX-ACCESS read-only  
STATUS       current  
DESCRIPTION  
    "The value of sysUpTime at which the first valid register message for the EID Prefix information represented by this entry was received by this device.

    If this information was present at the most recent re-initialization of the local management subsystem, then this object contains a zero value."

::= { lispEidRegistrationEntry 6 }

lispEidRegistrationLastTimeStamp OBJECT-TYPE

SYNTAX       TimeStamp  
MAX-ACCESS read-only  
STATUS       current  
DESCRIPTION  
    "The value of sysUpTime at which the last valid register message for the EID Prefix information represented by this entry was received by this device.

    If this information was present at the most recent re-initialization of the local management subsystem, then this object contains a zero value."

::= { lispEidRegistrationEntry 7 }

lispEidRegistrationLastRegisterSenderLength OBJECT-TYPE

SYNTAX       Integer32 (5..259)  
MAX-ACCESS read-only  
STATUS       current  
DESCRIPTION  
    "This object is used to get the octet-length of lispEidRegistrationLastRegisterSender, the next object."

::= { lispEidRegistrationEntry 8 }

lispEidRegistrationLastRegisterSender OBJECT-TYPE

SYNTAX       LispAddressType  
MAX-ACCESS read-only  
STATUS       current  
DESCRIPTION  
    "Source address of the last valid register message for the given EID prefix that was received by this device."

::= { lispEidRegistrationEntry 9 }

lispEidRegistrationAuthenticationErrors OBJECT-TYPE

SYNTAX       Counter64



MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of total authentication errors of map-registers received for the given EID prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of site config changes, which can be detected by observing the value of lispEidRegistrationFirstTimeStamp."

::= { lispEidRegistrationEntry 10 }

lispEidRegistrationRlocsMismatch OBJECT-TYPE

SYNTAX Counter64

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Count of total map-registers received that had at least one RLOC that was not in the allowed list of RLOCs for the given EID prefix.

Discontinuities in this monotonically increasing value occur at re-initialization of the management system.

Discontinuities can also occur as a result of site config changes, which can be detected by observing the value of lispEidRegistrationFirstTimeStamp."

::= { lispEidRegistrationEntry 11 }

lispEidRegistrationEtrTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispEidRegistrationEtrEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table provides the properties of ETRs that register the given EID prefix with this device when configured to be a Map-Server."

REFERENCE

["draft-ietf-lisp-23.txt, Section 6.1."](#)

::= { lispObjects 10 }

lispEidRegistrationEtrEntry OBJECT-TYPE

SYNTAX LispEidRegistrationEtrEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"An entry (conceptual row) in the





```
        lispEidRegistrationEtrTable."
INDEX      { lispEidRegistrationEidLength,
              lispEidRegistrationEid,
              lispEidRegistrationEtrSenderLength,
              lispEidRegistrationEtrSender }
 ::= { lispEidRegistrationEtrTable 1 }

LispEidRegistrationEtrEntry ::= SEQUENCE {
    lispEidRegistrationEtrSenderLength      Integer32,
    lispEidRegistrationEtrSender            LispAddressType,
    lispEidRegistrationEtrLastTimeStamp     TimeStamp,
    lispEidRegistrationEtrTtl               Unsigned32,
    lispEidRegistrationEtrProxyReply        TruthValue,
    lispEidRegistrationEtrWantsMapNotify    TruthValue
}

lispEidRegistrationEtrSenderLength OBJECT-TYPE
    SYNTAX      Integer32 (5..259)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is used to get the octet-length of
         lispEidRegistrationEtrSender."
    ::= { lispEidRegistrationEtrEntry 1 }

lispEidRegistrationEtrSender OBJECT-TYPE
    SYNTAX      LispAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Source address of the ETR that is sending valid register
         messages for this EID prefix to this device."
    ::= { lispEidRegistrationEtrEntry 2 }

lispEidRegistrationEtrLastTimeStamp OBJECT-TYPE
    SYNTAX      TimeStamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The value of sysUpTime at which the last valid register
         message from this ETR for the EID Prefix information
         represented by this entry was received by this device.

         If this information was present at the most recent
         re-initialization of the local management subsystem,
         then this object contains a zero value."
    ::= { lispEidRegistrationEtrEntry 3 }
```



**lispEidRegistrationEtrTtl OBJECT-TYPE**

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The Record TTL of the registering ETR device for this EID prefix."

::= { lispEidRegistrationEtrEntry 4 }

**lispEidRegistrationEtrProxyReply OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates proxy-replying status of the registering ETR for this EID prefix. If this object is TRUE, then it means the Map-Server can proxy-reply."

::= { lispEidRegistrationEtrEntry 5 }

**lispEidRegistrationEtrWantsMapNotify OBJECT-TYPE**

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"Indicates whether the EID prefix wants Map-Notifications. If this object is TRUE, then it means the EID prefix wants Map-Notifications."

::= { lispEidRegistrationEtrEntry 6 }

**lispEidRegistrationLocatorTable OBJECT-TYPE**SYNTAX SEQUENCE OF **LispEidRegistrationLocatorEntry**

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table provides the properties of all locators per LISP site that are served by this device when configured to be a Map-Server."

## REFERENCE

"[draft-ietf-lisp-23.txt](#), [Section 6.1](#)."

::= { lispObjects 11 }

**lispEidRegistrationLocatorEntry OBJECT-TYPE**SYNTAX **LispEidRegistrationLocatorEntry**

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"An entry (conceptual row) in the



```
    lispEidRegistrationLocatorTable."
INDEX      { lispEidRegistrationEidLength,
              lispEidRegistrationEid,
              lispEidRegistrationEtrSenderLength,
              lispEidRegistrationEtrSender,
              lispEidRegistrationLocatorRlocLength,
              lispEidRegistrationLocatorRloc }
 ::= { lispEidRegistrationLocatorTable 1 }

LispEidRegistrationLocatorEntry ::= SEQUENCE {
    lispEidRegistrationLocatorRlocLength      Integer32,
    lispEidRegistrationLocatorRloc           LispAddressType,
    lispEidRegistrationLocatorRlocState      INTEGER,
    lispEidRegistrationLocatorIsLocal        TruthValue,
    lispEidRegistrationLocatorPriority        Integer32,
    lispEidRegistrationLocatorWeight         Integer32,
    lispEidRegistrationLocatorMPriority      Integer32,
    lispEidRegistrationLocatorMWeight        Integer32
}

lispEidRegistrationLocatorRlocLength OBJECT-TYPE
    SYNTAX      Integer32 (5..259)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is used to get the octet-length of
         lispEidRegistrationLocatorRloc."
    ::= { lispEidRegistrationLocatorEntry 1 }

lispEidRegistrationLocatorRloc OBJECT-TYPE
    SYNTAX      LispAddressType
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "The locator of the given EID prefix being registered by the
         given ETR with this device."
    ::= { lispEidRegistrationLocatorEntry 2 }

lispEidRegistrationLocatorRlocState OBJECT-TYPE
    SYNTAX      INTEGER {
                    up (1),
                    down (2)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The cached state of this RLOC received in map-register from
         the ETR by the device, in the capacity of a Map-Server."
```



Value 1 refers to up, value 2 refers to down."  
::= { lispEidRegistrationLocatorEntry 3 }

lispEidRegistrationLocatorIsLocal OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates if the given locator is local to the registering  
ETR. If this object is TRUE, it means the locator is local."

::= { lispEidRegistrationLocatorEntry 4 }

lispEidRegistrationLocatorPriority OBJECT-TYPE

SYNTAX Integer32 (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The unicast priority of the RLOC for this EID prefix in the  
register message sent by the given ETR."

::= { lispEidRegistrationLocatorEntry 5 }

lispEidRegistrationLocatorWeight OBJECT-TYPE

SYNTAX Integer32 (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The unicast weight of the RLOC for this EID prefix in the  
register message sent by the given ETR."

::= { lispEidRegistrationLocatorEntry 6 }

lispEidRegistrationLocatorMPriority OBJECT-TYPE

SYNTAX Integer32 (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The multicast priority of the RLOC for this EID prefix in  
the register message sent by the given ETR."

::= { lispEidRegistrationLocatorEntry 7 }

lispEidRegistrationLocatorMWeight OBJECT-TYPE

SYNTAX Integer32 (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The multicast weight of the RLOC for this EID prefix in the  
register message sent by the given ETR."

::= { lispEidRegistrationLocatorEntry 8 }





## lispUseMapServerTable OBJECT-TYPE

SYNTAX SEQUENCE OF LispUseMapServerEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This table provides the properties of the map-server(s)  
with which this device is configured to register."

## REFERENCE

"[draft-ietf-lisp-ms-16.txt](#), [Section 4.3](#)."

::= { lispObjects 12 }

## lispUseMapServerEntry OBJECT-TYPE

SYNTAX LispUseMapServerEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"An entry (conceptual row) in the lispUseMapServerTable."

INDEX { lispUseMapServerAddressLength,  
lispUseMapServerAddress }

::= { lispUseMapServerTable 1 }

LispUseMapServerEntry ::= SEQUENCE {

lispUseMapServerAddressLength Integer32,

lispUseMapServerAddress LispAddressType,

lispUseMapServerState INTEGER

}

## lispUseMapServerAddressLength OBJECT-TYPE

SYNTAX Integer32 (5..259)

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"This object is used to get the octet-length of  
lispUseMapServerAddress."

::= { lispUseMapServerEntry 1 }

## lispUseMapServerAddress OBJECT-TYPE

SYNTAX LispAddressType

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"Address of Map-Server configured on this device."

::= { lispUseMapServerEntry 2 }

## lispUseMapServerState OBJECT-TYPE

SYNTAX INTEGER {

up (1),

down (2),



```
        unreachable (3)
    }
    MAX-ACCESS read-only
    STATUS      current
    DESCRIPTION
        "State of this Map-Server configured on this device
        (1 = Map-Server is up; 2 = Map-Server is down)."
```

::= { lispUseMapServerEntry 3 }

**lispUseMapResolverTable OBJECT-TYPE**

```
SYNTAX      SEQUENCE OF LispUseMapResolverEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This table provides the properties of the map-resolver(s)
    this device is configured to use."
```

REFERENCE

["draft-ietf-lisp-ms-16.txt, Section 4.4."](#)

::= { lispObjects 13 }

**lispUseMapResolverEntry OBJECT-TYPE**

```
SYNTAX      LispUseMapResolverEntry
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "An entry (conceptual row) in the
    lispUseMapResolverTable."
```

INDEX { lispUseMapResolverAddressLength,  
 lispUseMapResolverAddress }

::= { lispUseMapResolverTable 1 }

```
LispUseMapResolverEntry ::= SEQUENCE {
    lispUseMapResolverAddressLength  Integer32,
    lispUseMapResolverAddress        LispAddressType,
    lispUseMapResolverState          INTEGER
}
```

**lispUseMapResolverAddressLength OBJECT-TYPE**

```
SYNTAX      Integer32 (5..259)
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This object is used to get the octet-length of
    lispUseMapResolverAddress."
```

::= { lispUseMapResolverEntry 1 }

**lispUseMapResolverAddress OBJECT-TYPE**



SYNTAX       LispAddressType  
MAX-ACCESS not-accessible  
STATUS       current  
DESCRIPTION  
    "Address of map-resolver configured on this device."  
 ::= { lispUseMapResolverEntry 2 }

lispUseMapResolverState OBJECT-TYPE

SYNTAX       INTEGER {  
                up (1),  
                down (2)  
            }  
MAX-ACCESS read-only  
STATUS       current  
DESCRIPTION  
    "State of this Map-Resolver configured on this device  
    (1 = Map-Resolver is up; 2 = Map-Resolver is down)."  
 ::= { lispUseMapResolverEntry 3 }

lispUseProxyEtrTable OBJECT-TYPE

SYNTAX       SEQUENCE OF LispUseProxyEtrEntry  
MAX-ACCESS not-accessible  
STATUS       current  
DESCRIPTION  
    "This table provides the properties of all Proxy ETRs that  
    this device is configured to use."  
REFERENCE  
    "[draft-ietf-lisp-ms-16.txt](#), [Section 6.0](#)."  
 ::= { lispObjects 14 }

lispUseProxyEtrEntry OBJECT-TYPE

SYNTAX       LispUseProxyEtrEntry  
MAX-ACCESS not-accessible  
STATUS       current  
DESCRIPTION  
    "An entry (conceptual row) in the  
    lispUseProxyEtrTable."  
INDEX        { lispUseProxyEtrAddressLength,  
                lispUseProxyEtrAddress }  
 ::= { lispUseProxyEtrTable 1 }

LispUseProxyEtrEntry ::= SEQUENCE {

lispUseProxyEtrAddressLength	Integer32,
lispUseProxyEtrAddress	LispAddressType,
lispUseProxyEtrPriority	Integer32,
lispUseProxyEtrWeight	Integer32,
lispUseProxyEtrMPriority	Integer32,



```
        lispUseProxyEtrMWeight          Integer32,
        lispUseProxyEtrState             INTEGER
    }
```

**lispUseProxyEtrAddressLength OBJECT-TYPE**

```
SYNTAX      Integer32 (5..259)
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "This object is used to get the octet-length of
    lispUseProxyEtrAddress."
 ::= { lispUseProxyEtrEntry 1 }
```

**lispUseProxyEtrAddress OBJECT-TYPE**

```
SYNTAX      LispAddressType
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "Address of Proxy ETR configured on this device."
 ::= { lispUseProxyEtrEntry 2 }
```

**lispUseProxyEtrPriority OBJECT-TYPE**

```
SYNTAX      Integer32 (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The unicast priority of the PETR locator."
 ::= { lispUseProxyEtrEntry 3 }
```

**lispUseProxyEtrWeight OBJECT-TYPE**

```
SYNTAX      Integer32 (0..100)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The unicast weight of the PETR locator."
 ::= { lispUseProxyEtrEntry 4 }
```

**lispUseProxyEtrMPriority OBJECT-TYPE**

```
SYNTAX      Integer32 (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The multicast priority of the PETR locator."
 ::= { lispUseProxyEtrEntry 5 }
```

**lispUseProxyEtrMWeight OBJECT-TYPE**

```
SYNTAX      Integer32 (0..100)
MAX-ACCESS  read-only
```





```

    STATUS      current
    DESCRIPTION
        "The multicast weight of the PETR locator."
    ::= { lispUseProxyEtrEntry 6 }

lispUseProxyEtrState OBJECT-TYPE
    SYNTAX      INTEGER {
                    down (0),
                    up (1)
                }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "State of this Proxy ETR configured on this device
        (0 = Proxy ETR is down; 1 = Proxy ETR is up)."
    ::= { lispUseProxyEtrEntry 7 }

--
-- Conformance Information
--

lispCompliances OBJECT IDENTIFIER ::= { lispConformance 1 }
lispGroups      OBJECT IDENTIFIER ::= { lispConformance 2 }

--
-- Compliance Statements
--

lispMIBComplianceEtr MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "The compliance statement for LISP ETRs. It conveys
        information if device supports ETR feature, and relevant
        state associated with that feature."
    MODULE      -- this module
    MANDATORY-GROUPS { lispMIBetrGroup }

    GROUP       lispMIBitrGroup
    DESCRIPTION
        "This group is optional."

    GROUP       lispMIBPetrGroup
    DESCRIPTION
        "This group is optional."

    GROUP       lispMIBPitrGroup
```



## DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBMapResolverGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBetrExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBitrExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBTuningParametersGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBEncapStatisticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBDecapStatisticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBDiagnosticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBVrfGroup

## DESCRIPTION

"This group is optional."

::= { lispCompliances 1 }

lispMIBComplianceItr MODULE-COMPLIANCE

STATUS current

DESCRIPTION



"The compliance statement for LISP ITRs. It conveys information if device supports ITR feature, and any state associated with that feature."

MODULE -- this module

MANDATORY-GROUPS { lispMIBItrGroup }

GROUP lispMIBetrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBPetrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBPitrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBMapResolverGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBetrExtendedGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBItrExtendedGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerExtendedGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBTuningParametersGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBEncapStatisticsGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBDecapStatisticsGroup

DESCRIPTION



"This group is optional."

GROUP lispMIBDiagnosticsGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBVrfGroup

DESCRIPTION

"This group is optional."

::= { lispCompliances 2 }

lispMIBCompliancePetr MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"The compliance statement for LISP Proxy-ETRs. It conveys  
information if given device supports Proxy-ETR feature,  
and relevant state associated with that feature."

MODULE -- this module

MANDATORY-GROUPS { lispMIBPetrGroup }

GROUP lispMIBEtrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBItrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBPitrGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBMapResolverGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBEtrExtendedGroup

DESCRIPTION

"This group is optional."

GROUP lispMIBItrExtendedGroup

DESCRIPTION

"This group is optional."





```
GROUP    lispMIBMapServerExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBTuningParametersGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBEncapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBDecapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBDiagnosticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBVrfGroup
DESCRIPTION
    "This group is optional."

::= { lispCompliances 3 }

lispMIBCompliancePitr MODULE-COMPLIANCE
STATUS    current
DESCRIPTION
    "The compliance statement for LISP Proxy-ITRs. It conveys
    information if device supports Proxy-ITR feature, and
    relevant state associated with that feature."
MODULE    -- this module
MANDATORY-GROUPS { lispMIBPitrGroup }

GROUP    lispMIBEtrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBItrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBPetrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBMapServerGroup
```



## DESCRIPTION

"This group is optional."

GROUP lispMIBMapResolverGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBEtrExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBItrExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBMapServerExtendedGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBTuningParametersGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBEncapStatisticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBDecapStatisticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBDiagnosticsGroup

## DESCRIPTION

"This group is optional."

GROUP lispMIBVrfGroup

## DESCRIPTION

"This group is optional."

:= { lispCompliances 4 }

lispMIBComplianceMapServer MODULE-COMPLIANCE

STATUS current

## DESCRIPTION

"The compliance statement for LISP Map Servers. It conveys information if device supports Map Server feature, and relevant state associated with that feature."



```
MODULE  -- this module
MANDATORY-GROUPS { lispMIBMapServerGroup }

GROUP   lispMIBEtrGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBItrGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBPetrGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBPitrGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBMapResolverGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBEtrExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBItrExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBMapServerExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBTuningParametersGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBEncapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBDecapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP   lispMIBDiagnosticsGroup
```



```
DESCRIPTION
    "This group is optional."

GROUP    lispMIBVrfGroup
DESCRIPTION
    "This group is optional."

:= { lispCompliances 5 }

lispMIBComplianceMapResolver MODULE-COMPLIANCE
STATUS   current
DESCRIPTION
    "The compliance statement for LISP Map Resolvers. It
    conveys information if device supports Map Server
    feature, and relevant state associated with that
    feature."
MODULE  -- this module
MANDATORY-GROUPS { lispMIBMapResolverGroup }

GROUP    lispMIBEtrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBItrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBPetrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBPitrGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBMapServerGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBEtrExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBItrExtendedGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBMapServerExtendedGroup
```





```
DESCRIPTION
    "This group is optional."

GROUP    lispMIBTuningParametersGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBEncapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBDecapStatisticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBDiagnosticsGroup
DESCRIPTION
    "This group is optional."

GROUP    lispMIBVrfGroup
DESCRIPTION
    "This group is optional."

:= { lispCompliances 6 }

--
-- Units of Conformance
--

lispMIBetrGroup OBJECT-GROUP
    OBJECTS { lispFeaturesEtrEnabled,
               lispMappingDatabaseLsb,
               lispMappingDatabaseLocatorRlocPriority,
               lispMappingDatabaseLocatorRlocWeight,
               lispMappingDatabaseLocatorRlocMPriority,
               lispMappingDatabaseLocatorRlocMWeight,
               lispMappingDatabaseLocatorRlocState,
               lispMappingDatabaseLocatorRlocLocal,
               lispConfiguredLocatorRlocState,
               lispConfiguredLocatorRlocLocal,
               lispUseMapServerState
             }
    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
         management of LISP ETRs."
    ::= { lispGroups 1 }
```



```
lispMIBItrGroup OBJECT-GROUP
    OBJECTS { lispFeaturesItrEnabled,
               lispFeaturesMapCacheSize,
               lispMappingDatabaseLsb,
               lispMapCacheLocatorRlocPriority,
               lispMapCacheLocatorRlocWeight,
               lispMapCacheLocatorRlocMPriority,
               lispMapCacheLocatorRlocMWeight,
               lispMapCacheLocatorRlocState,
               lispMapCacheEidTimeStamp,
               lispMapCacheEidExpiryTime,
               lispUseMapResolverState,
               lispUseProxyEtrPriority,
               lispUseProxyEtrWeight,
               lispUseProxyEtrMPriority,
               lispUseProxyEtrMWeight,
               lispUseProxyEtrState
             }
    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
         management of LISP ITRs."
    ::= { lispGroups 2 }

lispMIBPetrGroup OBJECT-GROUP
    OBJECTS { lispFeaturesProxyEtrEnabled
             }
    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
         management of LISP Proxy-ETRs."
    ::= { lispGroups 3 }

lispMIBPitrGroup OBJECT-GROUP
    OBJECTS { lispFeaturesProxyItrEnabled,
               lispConfiguredLocatorRlocState,
               lispConfiguredLocatorRlocLocal
             }

    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
         management of LISP Proxy-ITRs."
    ::= { lispGroups 4 }

lispMIBMapServerGroup OBJECT-GROUP
    OBJECTS { lispFeaturesMapServerEnabled,
               lispEidRegistrationIsRegistered,
```



```
        lispEidRegistrationLocatorRlocState
    }
    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
        management of LISP Map Servers."
    ::= { lispGroups 5 }

lispMIBMapResolverGroup OBJECT-GROUP
    OBJECTS { lispFeaturesMapResolverEnabled
    }
    STATUS current
    DESCRIPTION
        "A collection of objects to support basic
        management of LISP Map Resolvers."
    ::= { lispGroups 6 }

lispMIBetrExtendedGroup OBJECT-GROUP
    OBJECTS { lispFeaturesRlocProbeEnabled,
        lispFeaturesEtrAcceptMapDataEnabled,
        lispFeaturesEtrAcceptMapDataVerifyEnabled,
        lispMappingDatabaseEidPartitioned
    }
    STATUS current
    DESCRIPTION
        "A collection of objects to support management
        of LISP features and properties on ETRs."
    ::= { lispGroups 7 }

lispMIBitrExtendedGroup OBJECT-GROUP
    OBJECTS { lispFeaturesRlocProbeEnabled,
        lispMapCacheEidState,
        lispMapCacheEidAuthoritative,
        lispMapCacheLocatorRlocTimeStamp,
        lispMapCacheLocatorRlocLastPriorityChange,
        lispMapCacheLocatorRlocLastWeightChange,
        lispMapCacheLocatorRlocLastMPriorityChange,
        lispMapCacheLocatorRlocLastMWeightChange,
        lispMapCacheLocatorRlocLastStateChange,
        lispMapCacheLocatorRlocRtt
    }
    STATUS current
    DESCRIPTION
        "A collection of objects to support management
        of LISP features and properties on ITRs."
    ::= { lispGroups 8 }

lispMIBMapServerExtendedGroup OBJECT-GROUP
```



```
OBJECTS { lispEidRegistrationSiteName,
          lispEidRegistrationSiteDescription,
          lispEidRegistrationIsRegistered,
          lispEidRegistrationFirstTimeStamp,
          lispEidRegistrationLastTimeStamp,
          lispEidRegistrationLastRegisterSenderLength,
          lispEidRegistrationLastRegisterSender,
          lispEidRegistrationEtrLastTimeStamp,
          lispEidRegistrationEtrTtl,
          lispEidRegistrationEtrProxyReply,
          lispEidRegistrationEtrWantsMapNotify,
          lispEidRegistrationLocatorIsLocal,
          lispEidRegistrationLocatorPriority,
          lispEidRegistrationLocatorWeight,
          lispEidRegistrationLocatorMPriority,
          lispEidRegistrationLocatorMWeight
        }
STATUS   current
DESCRIPTION
    "A collection of objects to support management
    of LISP features and properties on Map Servers
    related to EID registrations."
 ::= { lispGroups 9 }

lispMIBTuningParametersGroup OBJECT-GROUP
OBJECTS { lispFeaturesMapCacheLimit,
          lispFeaturesEtrMapCacheTtl
        }
STATUS   current
DESCRIPTION
    "A collection of writeable objects used to
    configure LISP behavior and to tune performance."
 ::= { lispGroups 10 }

lispMIBEncapStatisticsGroup OBJECT-GROUP
OBJECTS { lispMappingDatabaseTimeStamp,
          lispMappingDatabaseEncapOctets,
          lispMappingDatabaseEncapPackets,
          lispMappingDatabaseLocatorRlocTimeStamp,
          lispMappingDatabaseLocatorRlocEncapOctets,
          lispMappingDatabaseLocatorRlocEncapPackets,
          lispMapCacheEidTimeStamp,
          lispMapCacheEidEncapOctets,
          lispMapCacheEidEncapPackets,
          lispMapCacheLocatorRlocTimeStamp,
          lispMapCacheLocatorRlocEncapOctets,
          lispMapCacheLocatorRlocEncapPackets,
          lispConfiguredLocatorRlocTimeStamp,
```





```
        lispConfiguredLocatorRlocEncapOctets,
        lispConfiguredLocatorRlocEncapPackets
    }
    STATUS    current
    DESCRIPTION
        "A collection of LISP encapsulation statistics
        by the device."
    ::= { lispGroups 11 }

lispMIBDecapStatisticsGroup OBJECT-GROUP
    OBJECTS { lispMappingDatabaseTimeStamp,
              lispMappingDatabaseDecapOctets,
              lispMappingDatabaseDecapPackets,
              lispMappingDatabaseLocatorRlocTimeStamp,
              lispMappingDatabaseLocatorRlocDecapOctets,
              lispMappingDatabaseLocatorRlocDecapPackets,
              lispMapCacheEidTimeStamp,
              lispMapCacheEidDecapOctets,
              lispMapCacheEidDecapPackets,
              lispMapCacheLocatorRlocTimeStamp,
              lispMapCacheLocatorRlocDecapOctets,
              lispMapCacheLocatorRlocDecapPackets,
              lispConfiguredLocatorRlocTimeStamp,
              lispConfiguredLocatorRlocDecapOctets,
              lispConfiguredLocatorRlocDecapPackets
            }
    STATUS    current
    DESCRIPTION
        "A collection of LISP decapsulation statistics
        by the device."
    ::= { lispGroups 12 }

lispMIBDiagnosticsGroup OBJECT-GROUP
    OBJECTS { lispFeaturesRouterTimeStamp,
              lispGlobalStatsMapRequestsIn,
              lispGlobalStatsMapRequestsOut,
              lispGlobalStatsMapRepliesIn,
              lispGlobalStatsMapRepliesOut,
              lispGlobalStatsMapRegistersIn,
              lispGlobalStatsMapRegistersOut,
              lispEidRegistrationAuthenticationErrors,
              lispEidRegistrationRlocsMismatch
            }
    STATUS    current
    DESCRIPTION
        "Objects providing additional diagnostics
        related to a LISP router. These are related
        to LISP control plane state."
```



```
 ::= { lispGroups 13 }

lispMIBVrfGroup OBJECT-GROUP
  OBJECTS { lispIdToVrfName
            }
  STATUS current
  DESCRIPTION
    "Objects providing information related to VRF
     configurations on a LISP router."
 ::= { lispGroups 14 }
```

END

## **8. Relationship to Other MIB Modules**

### **8.1. MIB modules required for IMPORTS**

The LISP MIB imports the textual-convention AddressFamilyNumbers from the IANA-ADDRESS-FAMILY-NUMBERS-MIB [[IANA](#)].

## **9. Security Considerations**

There are no management objects defined in this MIB module that have a MAX-ACCESS clause of read-write and/or read-create. As long as these MIB modules are implemented correctly, there are no risks that any management objects of this MIB module can modify device settings via direct SNMP SET operations.

There are no readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) that are considered sensitive.

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 these MIB modules 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.

## **10. IANA Considerations**

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

Descriptor -----	OBJECT IDENTIFIER value -----
lispMib	{ mib-2 XXX }

[Editor's Note (to be removed prior to publication): the IANA is requested to assign a value for "XXX" under the 'mib-2' subtree and to record the assignment in the SMI Numbers registry. When the assignment has been made, the RFC Editor is asked to replace "XXX" (here and in the MIB module) with the assigned value and to remove this note.]

## **11. References**

### **11.1. Normative References**

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- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC2578] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#),



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- [RFC2579] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Textual Conventions for SMIV2", STD 58, [RFC 2579](#), April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., and J. Schoenwaelder, "Conformance Statements for SMIV2", STD 58, [RFC 2580](#), April 1999.
- [RFC4382] Nadeau, T. and H. van der Linde, "MPLS/BGP Layer 3 Virtual Private Network (VPN) Management Information Base", [RFC 4382](#), February 2006.

### **[11.2. Informative References](#)**

- [LCAF] Farinacci, D., Meyer, D., and J. Snijders, "LISP Canonical Address Format", [draft-ietf-lisp-lcaf-00.txt](#) (work in progress), August 2012.
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- [RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Management Framework", [RFC 3410](#), December 2002.

### **[Appendix A. Open Issues](#)**

Open issues for the LISP MIB include the following:

1. This LISP MIB draft does not include LISP Multicast [[LISP-MCAST](#)] considerations. Multicast considerations will be added in a separate LISP Multicast MIB draft.

### **[Appendix B. Acknowledgments](#)**

A thank you is owed to Dino Farinacci for his inputs and review comments on the initial versions of this draft. In addition, the authors would like to gratefully acknowledge several others who have reviewed and commented on this draft. They include: Darrel Lewis, Isidor Kouvelas, Jesper Skriver, Selina Heimlich, Parna Agrawal, Dan Romascanu, and Luigi Iannone.





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