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diff -c draft-farinacci-lisp-lcaf-06  
draft-farinacci-lisp-lcaf-10
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Vancouver IETF
July 2012

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Changes since Oct 2011

< [draft-farinacci-lisp-lcaf-06.txt](#)

Network Working Group
Internet-Draft
Intended status: Experimental
Expires: April 26, 2012

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October 24, 2011

LISP Canonical Address Format (LCAF)
[draft-farinacci-lisp-lcaf-06](#)

Abstract

This draft defines a canonical address format encoding used in LISP control messages and in the encoding of lookup keys for the LISP Mapping Database System.

Status of this Memo

This Internet-Draft is submitted in full conformance with the

[draft-farinacci-lisp-lcaf-10.txt](#) >

Network Working Group
Internet-Draft
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July 9, 2012

LISP Canonical Address Format (LCAF)
[draft-farinacci-lisp-lcaf-10](#)

Abstract

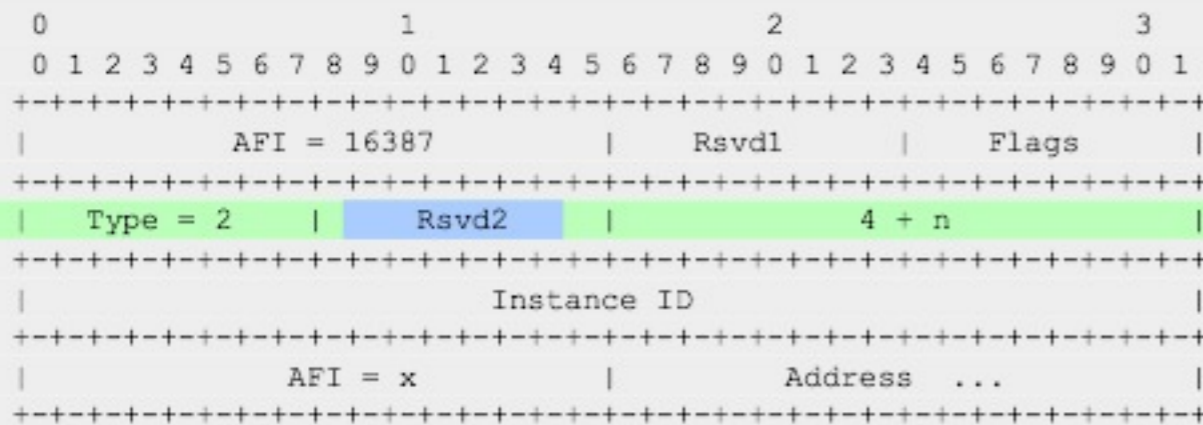
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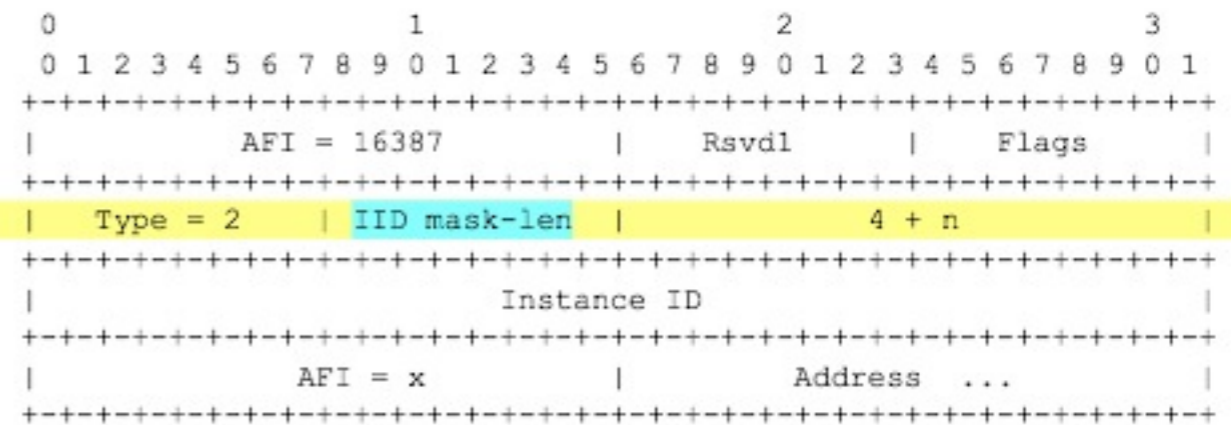
IID mask-len for LISP-DDT

Instance ID LISP Canonical Address Format:



Length value n: length in bytes of the AFI address that follows the Instance ID field including the AFI field itself.

Instance ID LISP Canonical Address Format:

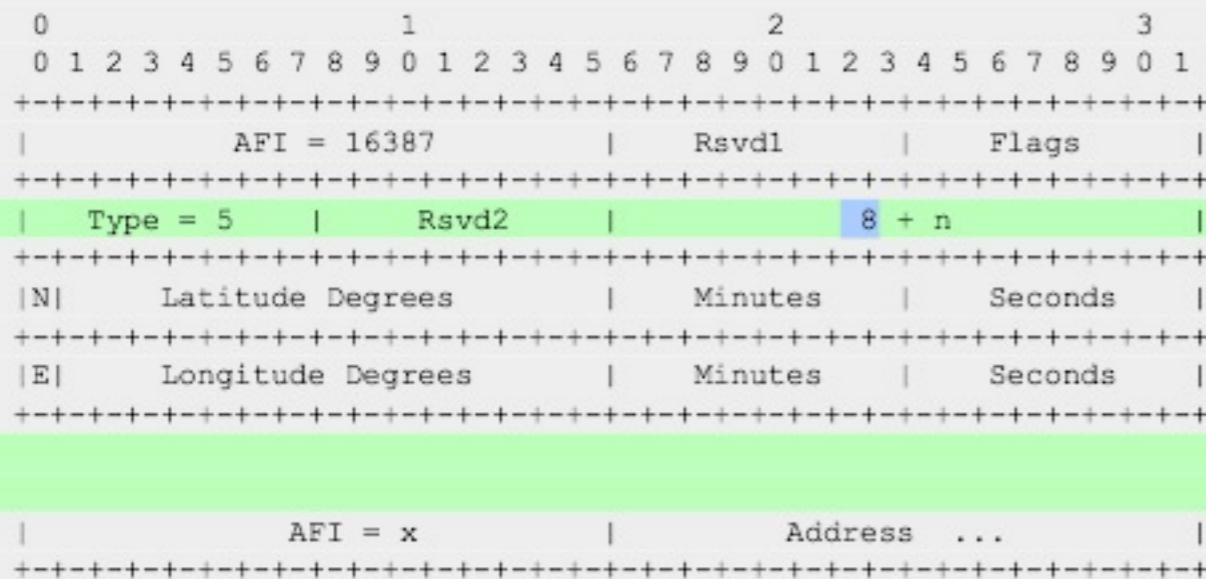


IID mask-len: if the AFI is set to 0, then this format is not encoding an extended EID-prefix but rather an instance-ID range where the 'IID mask-len' indicates the number of high-order bits used in the Instance ID field for the range.

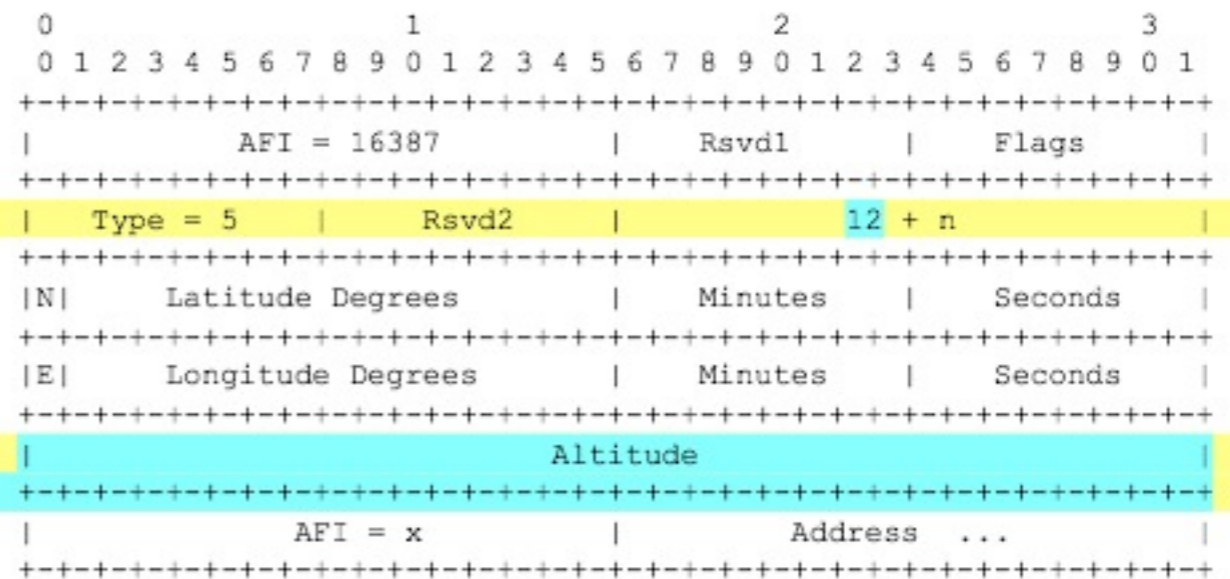
Length value n: length in bytes of the AFI address that follows the Instance ID field including the AFI field itself.

Add Altitude to Geo-Coordinate Type

Geo Coordinate LISP Canonical Address Format:



Geo Coordinate LISP Canonical Address Format:



draft-ermagan-lisp-nat-traversal-01

4.6. NAT Traversal Scenarios

When a LISP system is conveying global address and mapped port information when traversing through a NAT device, the NAT-Traversal LCAF Type is used.

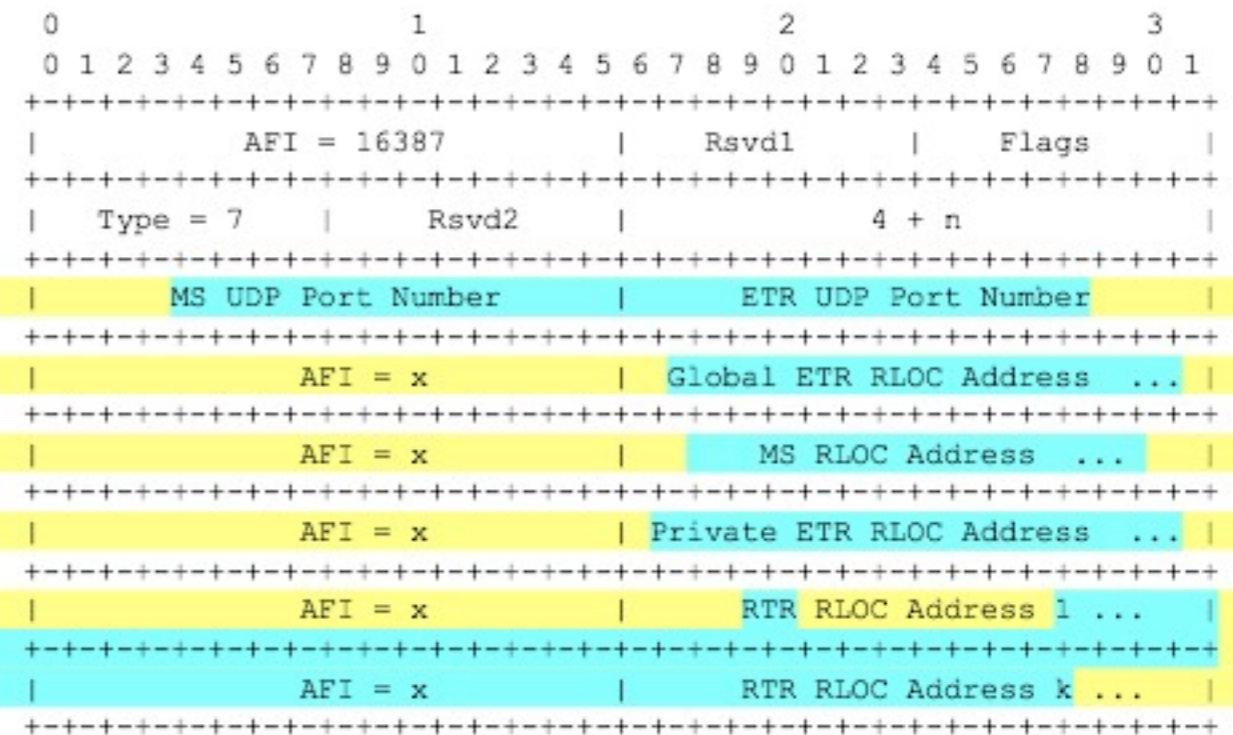
NAT-Traversal Canonical Address Format:



4.6. NAT Traversal Scenarios

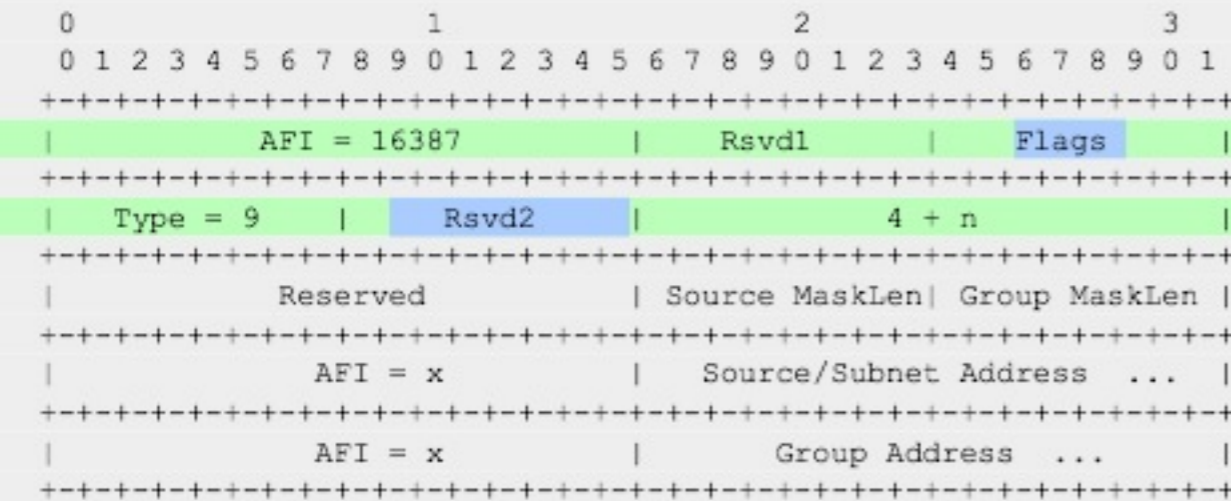
When a LISP system is conveying global address and mapped port information when traversing through a NAT device, the NAT-Traversal LCAF Type is used. See [LISP-NATT] for details.

NAT-Traversal Canonical Address Format:



draft-farinacci-lisp-mr-signaling-00

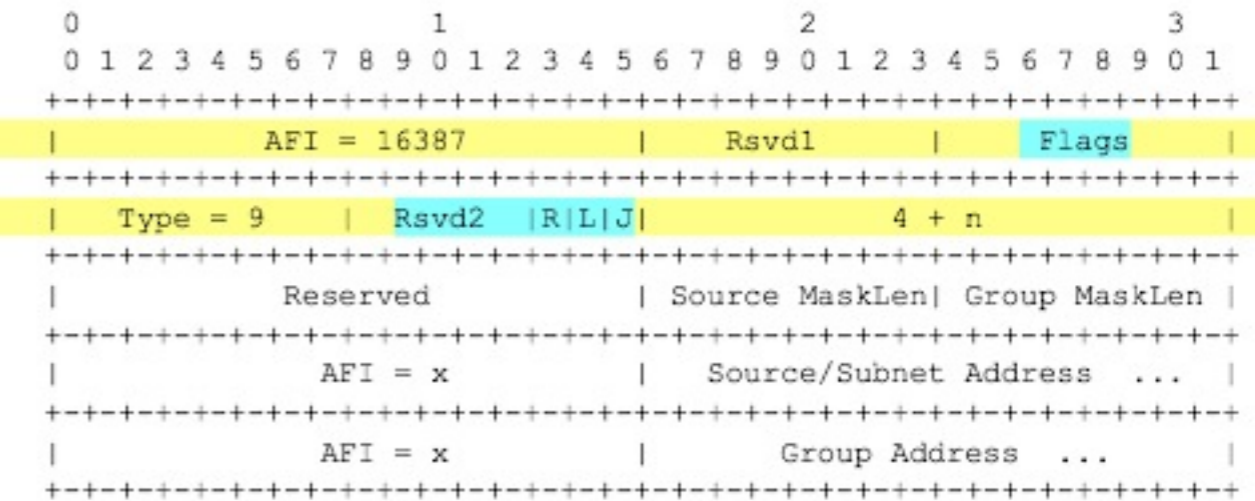
Multicast Info Canonical Address Format:



Length value n: length in bytes of fields that follow.

Reserved: must be set to zero and ignore on receipt.

Multicast Info Canonical Address Format:



Length value n: length in bytes of fields that follow.

Reserved: must be set to zero and ignore on receipt.

R-bit: this is the RP-bit that represents PIM (S,G,RP-bit) multicast state. This bit can be set for Joins (when the J-bit is set) or for Leaves (when the L-bit is set). See [LISP-MRSIG] for more usage details.

L-bit: this is the Leave-Request bit and is used when this LCAF type is present in the destination EID-prefix field of a Map-Request. See [LISP-MRSIG] for details.

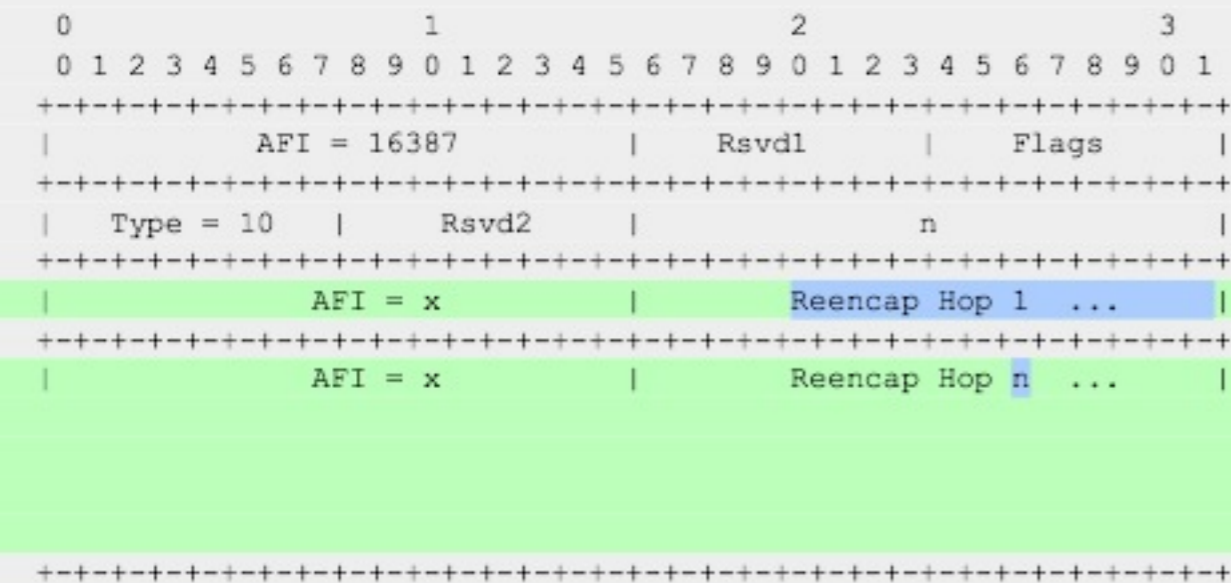
J-bit: this is the Join-Request bit and is used when this LCAF type is present in the destination EID-prefix field of a Map-Request. See [LISP-MRSIG] for details. The J-bit MUST not be set when the L-bit is also set in the same LCAF block. A receiver should not take any specific Join or Leave action when both bits are set.

draft-farinacci-lisp-te-01

4.9. Traffic Engineering using Re-encapsulating Tunnels

For a given EID lookup into the mapping database, this LCAF format can be returned to provide a list of locators in an explicit re-encapsulation path.

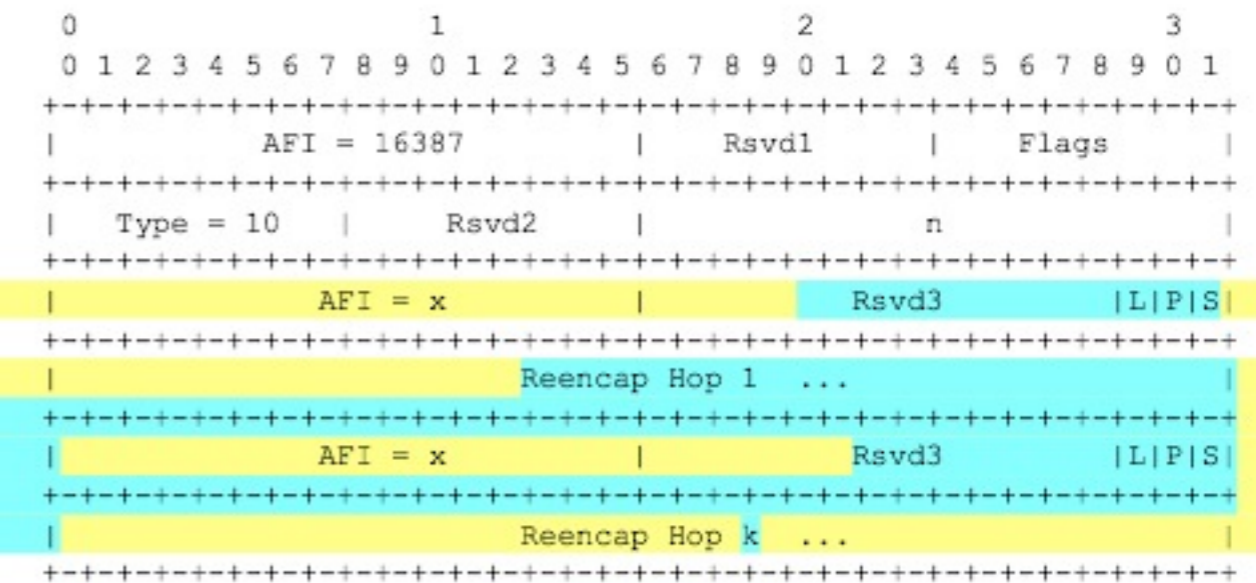
Explicit Locator Path (ELP) Canonical Address Format:



4.9. Traffic Engineering using Re-encapsulating Tunnels

For a given EID lookup into the mapping database, this LCAF format can be returned to provide a list of locators in an explicit re-encapsulation path. See [LISP-TE] for details.

Explicit Locator Path (ELP) Canonical Address Format:



draft-farinacci-lisp-te-01

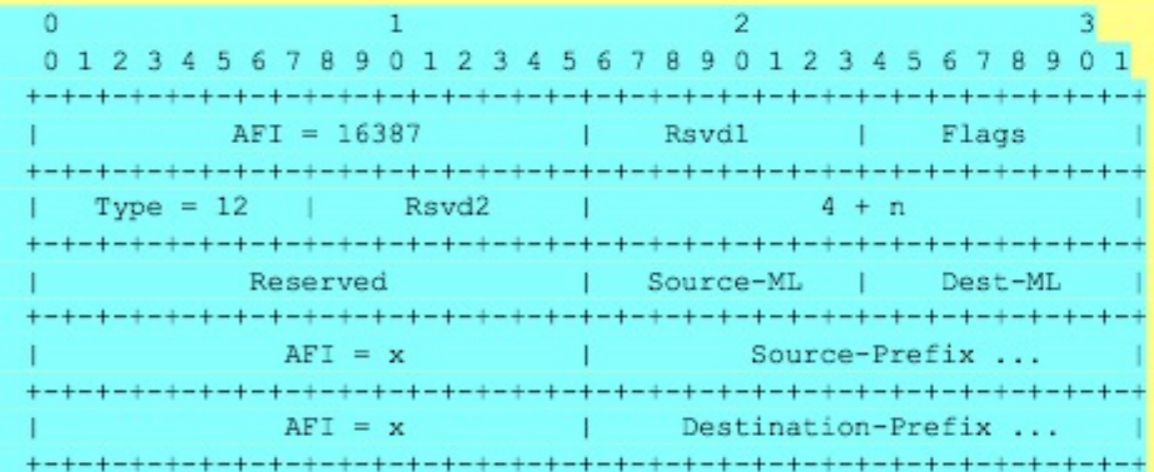
4.11. Applications for AFI List Type

4.11.1. Binding IPv4 and IPv6 Addresses

4.11. Source/Destination 2-Tuple Lookups

When both a source and destination address of a flow needs consideration for different locator-sets, this 2-tuple key is used in EID fields in LISP control messages. When the Source/Dest key is registered to the mapping database, it can be encoded as a source-prefix and destination-prefix. When the Source/Dest is used as a key for a mapping database lookup the source and destination come from a data packet.

Source/Dest Key Canonical Address Format:



Length value n: length in bytes of fields that follow.

Reserved: must be set to zero and ignore on receipt.

Source-ML: the mask length of the source prefix that follows.

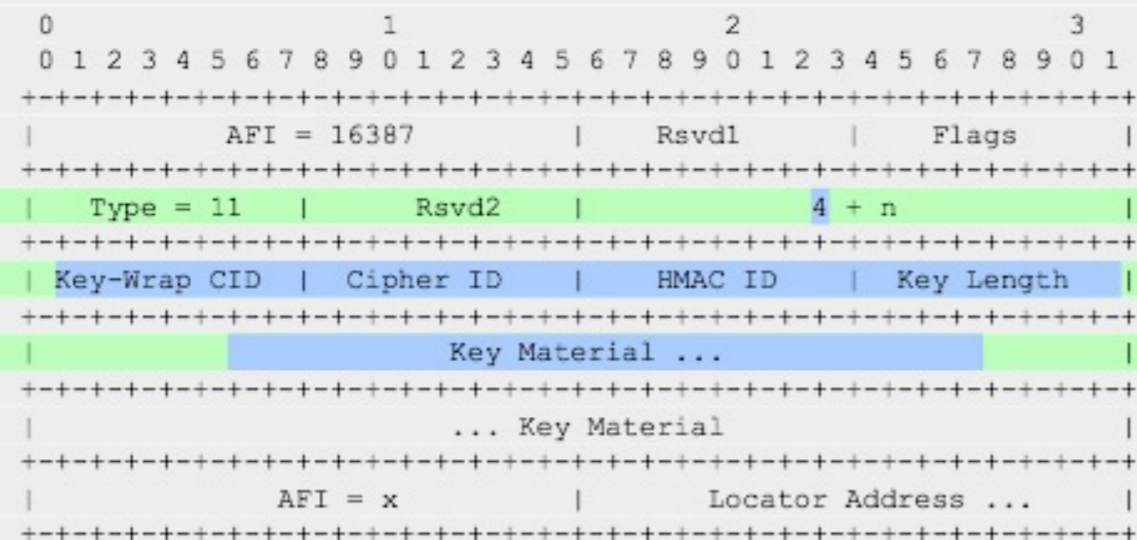
Dest-ML: the mask length of the destination prefix that follows.

AFI = x: x can be any AFI value from [AFI]. When a specific AFI has its own encoding of a multicast address, this field must be either a group address or a broadcast address.

Refer to [LISP-TE] for usage details.

Changes for LISP-DDT-SEC

Security Key Canonical Address Format:



Length value n: length in bytes of fields that follow.

Key-Wrap CID: When the key is transmitted in this LCAF formatted as ciphertext, then this Key Wrap Cipher ID indicates the cipher algorithm used. The key used for this cipher is obtained out of band. Values are assigned from [LISP-SEC].

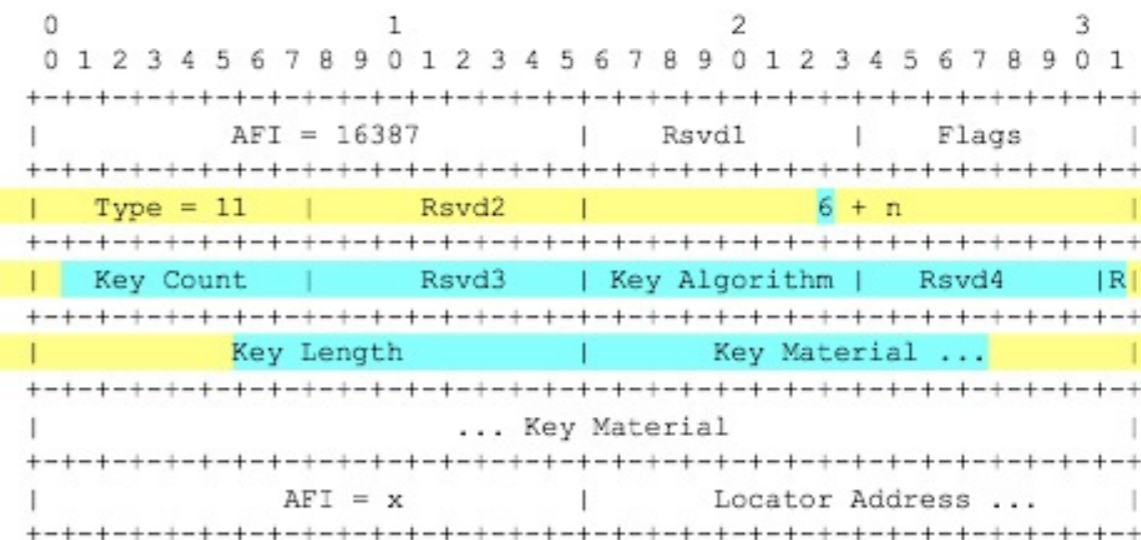
Cipher ID: Values are assigned from [LISP-SEC]. When the key is used for a cipher for encryption or decryption, this field indicates which cipher algorithm to use.

HMAC ID: Values are assigned from [LISP-SEC]. When the key is used for a signature calculation, this field indicates what hash algorithm to use.

Key Length: Length in bytes of key material that follows this field and comes before the Locator address fields.

Key Material: Key material encoded as a public key when Cipher ID is not a Null value. Key material encoded as a signature key when HMAC ID is not a Null value. See [LISP-SEC] for value assignments.

Security Key Canonical Address Format:



Length value n: length in bytes of fields that start with the Key Material field.

Key Count: the Key Count field declares the number of Key sections included in this LCAF.

Key Algorithm: the Algorithm field identifies the key's cryptographic algorithm and specifies the format of the Public Key field.

R bit: this is the revoke bit and, if set, it specifies that this Key is being Revoked.

Key Length: this field determines the length in bytes of the Key Material field.

Key Material: the Key Material field stores the key material. The format of the key material stored depends on the Key Algorithm field.

New LCAF Types - Old Parsers

4.12.5. Compatibility Mode Use Case

A LISP system should use the AFI List Type format when sending to LISP systems that do not support a particular LCAF Type used to encode locators. This allows the receiving system to be able to parse a locator address for encapsulation purposes. The list of AFIs in an AFI List LCAF Type has no semantic ordering and a receiver should parse each AFI element no matter what the ordering.

Compatibility Mode Address Format:

0										1										2										3									
0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
AFI = 16387										Rsvd1										Flags																			
Type = 1										Rsvd2										22 + 6																			
AFI = 16387										Rsvd1										Flags																			
Type = 5										Rsvd2										12 + 2																			
N Latitude Degrees										Minutes										Seconds																			
E Longitude Degrees										Minutes										Seconds																			
										Altitude																													
AFI = 0										AFI = 1																													
										IPv4 Address																													

Question

- What should we do with this document?
- LCAF as an individual submission allows faster innovation for new drafts
- LCAF as a working group draft allows LCAF draft to be reference in other working group drafts