

**IETF 121 – IETF**

# **Locator/ID Separation Protocol Delegated Database Tree (LISP-DDT)**

**draft-saucez-lisp-8111bis-00**

(replaces: draft-saucez-8111bis-00)

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**IETF 121 – Dublin**

# Since IETF 120: New Document

## Locator/ID Separation Protocol Delegated Database Tree (LISP-DDT)

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Status

[Email expansions](#)

[History](#)

Versions:

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(Small error in the naming hence replacement)  
November 2024  
New Document

# Main Structure almost unchanged

1. Introduction	4
2. Requirements Language	5
3. Definitions of Terms	6
4. Database Organization	8
4.1. XEID-Prefixes	8
4.2. Structure of the DDT Database	8
4.3. Configuring Prefix Delegation	9
4.3.1. The Root DDT Node	10
5. DDT Map-Request	10
6.1. Action Codes	11
6.2. Referral Set	12
6.3. "Incomplete" Flag	12
6.4. Map-Referral Message Format	13
6.4.1. Signature Section	15
7. DDT Network Elements and Their Operation	17
7.1. DDT Node	17
7.1.1. Matching of a Delegated Prefix (or Sub-prefix)	17
7.1.2. Missing Delegation from an Authoritative Prefix	18
7.2. DDT Map-Server	18
7.3. DDT Client	18
7.3.1. Queuing and Sending DDT Map-Requests	19
7.3.2. Receiving and Following Referrals	20
7.3.3. Handling Referral Errors	22
7.3.4. Referral Loop Detection	22
8. Pseudocode and Decision Tree Diagrams	23
8.1. Map-Resolver Processing of ITR Map-Request	23
8.1.1. Pseudocode Summary	23
8.1.2. Decision Tree Diagram	24
8.2. Map-Resolver Processing of Map-Referral Message	25
8.2.1. Pseudocode Summary	25
8.2.2. Decision Tree Diagram	27
8.3. DDT Node Processing of DDT Map-Request Message	28
8.3.1. Pseudocode Summary	28
8.3.2. Decision Tree Diagram	30
9. Example Topology and Request/Referral Following	31
9.1. Lookup of 2001:db8:0103:1::1/128	33
9.2. Lookup of 2001:db8:0501:8:4::1/128	34
9.3. Lookup of 2001:db8:0104:2::2/128	35
9.4. Lookup of 2001:db8:0500:2:4::1/128	36
9.5. Lookup of 2001:db8:0500::1/128 (Nonexistent EID)	37
10. Securing the Database and Message Exchanges	37
10.1. XEID-Prefix Delegation	38
10.2. DDT Node Operation	38
10.2.1. DDT Public Key Revocation	38
10.3. Map-Server Operation	39
10.4. Map-Resolver Operation	39
11. Open Issues and Considerations	40
12. IANA Considerations	41
13. Security Considerations	41
14. References	42
14.1. Normative References	42
14.2. Informative References	43
Acknowledgments	44
Authors' Addresses	44

1. Introduction	3
2. Requirements Language	5
3. Definitions of Terms	6
4. Database Organization	7
4.1. XEID-Prefixes	7
4.2. Structure of the DDT Database	8
4.3. Configuring Prefix Delegation	8
4.3.1. The Root DDT Node	9
5. The Map-Referral Message	9
5.1. Action Codes	9
5.2. Referral Set	10
5.3. "Incomplete" Flag	10
5.4. Map-Referral Message Format	11
5.4.1. Signature Section	13
6. DDT Network Elements and Their Operation	14
6.1. DDT Node	15
6.1.1. Matching of a Delegated Prefix (or Sub-prefix)	15
6.1.2. Missing Delegation from an Authoritative Prefix	16
6.2. DDT Map-Server	16
6.3. DDT Client	16
6.3.1. Queuing and Sending DDT Map-Requests	17
6.3.2. Receiving and Following Referrals	18
6.3.3. Handling Referral Errors	19
6.3.4. Referral Loop Detection	20
7. Pseudo-code and Decision Tree Diagrams	20
7.1. Map-Resolver Processing of ITR Map-Request	21
7.1.1. Pseudo-code Summary	21
7.1.2. Decision Tree Diagram	21
7.2. Map-Resolver Processing of Map-Referral Message	22
7.2.1. Pseudo-code Summary	22
7.2.2. Decision Tree Diagram	24
7.3. DDT Node Processing of DDT Map-Request Message	25
7.3.1. Pseudo-code Summary	25
7.3.2. Decision Tree Diagram	27
8. Example Topology and Request/Referral Following	28
8.1. Lookup of 2001:db8:0103:1::1/128	30
8.2. Lookup of 2001:db8:0501:8:4::1/128	31
8.3. Lookup of 2001:db8:0104:2::2/128	32
8.4. Lookup of 2001:db8:0500:2:4::1/128	33
8.5. Lookup of 2001:db8:0500::1/128 (Nonexistent EID)	33
9. Securing the Database and Message Exchanges	34
9.1. XEID-Prefix Delegation	35
9.2. DDT Node Operation	35
9.2.1. DDT Public Key Revocation	35
9.3. Map-Server Operation	36
9.3.1. Map-Resolver Operation	36
10. Deployment Experience	37
11. Open Issues and Considerations	37
12. Security Considerations	37
13. References	38
13.1. Normative References	38
13.2. Informative References	38
Contributors	39
Authors' Addresses	40

Deleted "DDT Map Request" because its purpose was to allocated the "DDT-Originated" flag, but that bit is now allocated in RFC 9301.

Added "Deployment Experience" Section.  
• Actually still empty. Editors will need help from implementors.

# IANA Section

12. IANA Considerations

IANA has made the following early assignment per this document:

o Message type 6, "LISP DDT Map-Referral", was added to the "LISP Packet Types" registry. See Section 6.4 ("Map-Referral Message Format").

As this document is an Experimental RFC, this is an early allocation as per [RFC7120].

11. IANA Considerations

IANA has made the an early temporary allocation for message type 6, "LISP DDT Map-Referral", in the "LISP Packet Types" registry group. IANA is requested to make the allocation permanent and modify the "LISP Packet Types" as shown in Table 3.

Code	Message	Reference
6	LISP DDT Map-Referral	[This document]

Table 3: LISP DDT Map-Referral Message Type Allocation

- IANA Section revised according to latest guidelines

proxy Map-Server) that will provide an authoritative response to the original requester. A DDT Map-Resolver will typically maintain a cache (termed the "referral cache") of previously received Map-Referral message results containing RLOCs for DDT nodes responsible for XEID-prefixes of interest.

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- Added "Deployment Experience" Section.
  - Actually still empty. Editors will need help from implementors.

- Define "DDT Referral Cache?"

# Inconsistent IID

- \* Database-ID (DBID) (16 bits),
- \* Instance Identifier (IID) (32 bits),
- \* Address Family Identifier (AFI) (16 bits), and
- \* EID-prefix (variable, according to the AFI value).

The resulting concatenation of these fields is termed an "Extended EID-prefix", or XEID-prefix.

- RFC 8111 defines XEID as the concatenation of
  - 16 bits of the DBID
  - 32 bits of the IID
  - 16 bits of the AFI
  - And the prefix
- BUT
- RFC 9300, Section 8, defines the IID as a 24 bits field

An Instance ID can be carried in a LISP-encapsulated packet. An ITR that prepends a LISP header will copy a 24-bit value used by the LISP router to uniquely identify the address space. The value is copied to the 'Instance ID' field of the LISP header, and the I-bit is set to 1.

# Extended EID-Prefix update

- Since XEIDs are just the primary key of the local DB and never send in messages (at least not as contiguous bits) the definition can be changed to:
  - 16 bits of the DBID
  - 24 bits of the IID
  - 16 bits of the AFI
  - And the prefix
- Old implementation using 32 bits IID in XEIDs are still conform it is just an implementation details that the data structure is actually:
  - 16 bits of the DBID
  - 8 bits padding (set a zeros)
  - 24 bits of the IID
  - 16 bits of the AFI
  - And the prefix

Where the un-mutable 8 bits padding has no consequences on the lookup operations

Or should we explicitly encode a 8 bits padding?

# IANA Consideration & References Sections

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[RFC9300] Farinacci, D., Fuller, V., Meyer, D., Lewis, D., and A. Cabellos, Ed., "The Locator/ID Separation Protocol (LISP)", RFC 9300, DOI 10.17487/RFC9300, October 2022, <<https://www.rfc-editor.org/rfc/rfc9300>>.

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- References updated with new STD main specifications:
  - RFC9300 Data Plane
  - RFC9301 Control Plane
  - RFC9302 Map-Versioning
  - RFC9303 LISP-SEC

# Next Steps

- **Revise document to make sure residual text about routing scalability is dropped**
- **Revise Pseudo Code & Examples (All necessary?)**
- **Revise XEID Format**
- **Define “DDT Referral Cache” ?**
- **Revise text for improved clarity...**
- **Anything else?**
- **Should we go for WG Adoption?**

**THANKS!**



# IANA Section

- IANA Section revised according to latest guidelines
  
- Added “Deployment Experience” Section.
  - Actually still empty. Editors will need help from implementors.