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**LISP Distinguished Name Encoding**  
**draft-farinacci-lisp-name-encoding-03**

Abstract

This draft defines how to use the AFI=17 Distinguished Names in LISP.

Status of This Memo

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## [1.](#) Introduction

The LISP architecture and protocols [[RFC6830](#)] introduces two new numbering spaces, Endpoint Identifiers (EIDs) and Routing Locators (RLOCs) which are intended to replace most use of IP addresses on the Internet. To provide flexibility for current and future applications, these values can be encoded in LISP control messages using a general syntax that includes Address Family Identifier (AFI) [[RFC1700](#)].

The length of the value field is implicit in the type of address that follows. For AFI 17, a Distinguished Name can be encoded. A name can be a variable length field so the length cannot be determined solely from the AFI value 17. This draft defines a termination character, an 8-bit value of 0 to be used as a string terminator so the length can be determined.

LISP Distinguished Names are useful when encoded either in EID-records or RLOC-records in LISP control messages. As EIDs, they can be registered in the mapping system to find resources, services, or simply used as a self-documenting feature that accompany other address specific EIDs. As RLOCs, Distinguished Names, along with RLOC specific addresses and parameters, can be used as labels to identify equipment type, location, or any self-documenting string a registering device desires to convey.



## 2. Definition of Terms

Address Family Identifier (AFI): a term used to describe an address encoding in a packet. An address family currently defined for IPv4 or IPv6 addresses. See [[AFI](#)] and [[RFC1700](#)] for details on other types of information that can be AFI encoded.

## 3. Distinguished Name Format

An AFI=17 Distinguished Name is encoded as:

```

      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
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|           AFI = 17           |       ASCII String ...       |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+
|           ... ASCII String           |           0           |
+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+---+

```

The string of characters are encoded in the ASCII character-set definition [[RFC0020](#)].



#### **4. Security Considerations**

There are no security considerations.

#### **5. IANA Considerations**

The code-point values in this specification are already allocated in [\[AFI\]](#).

#### **6. Normative References**

- [AFI] IANA, , "Address Family Identifier (AFIs)", ADDRESS FAMILY NUMBERS <http://www.iana.org/numbers.html>, Febuary 2007.
- [RFC0020] Cerf, V., "ASCII format for network interchange", STD 80, [RFC 20](#), DOI 10.17487/RFC0020, October 1969, <<http://www.rfc-editor.org/info/rfc20>>.
- [RFC1700] Reynolds, J. and J. Postel, "Assigned Numbers", [RFC 1700](#), DOI 10.17487/RFC1700, October 1994, <<http://www.rfc-editor.org/info/rfc1700>>.
- [RFC6830] Farinacci, D., Fuller, V., Meyer, D., and D. Lewis, "The Locator/ID Separation Protocol (LISP)", [RFC 6830](#), DOI 10.17487/RFC6830, January 2013, <<http://www.rfc-editor.org/info/rfc6830>>.

#### **Appendix A. Acknowledgments**

The author would like to thank the LISP WG for their review and acceptance of this draft.

#### **Appendix B. Document Change Log**

##### **B.1. Changes to [draft-farinacci-lisp-name-encoding-03](#)**

- o Submitted March 2017.
- o Update document expiry timer.

##### **B.2. Changes to [draft-farinacci-lisp-name-encoding-02](#)**

- o Submitted October 2016.
- o Add a comment that the distinguished-name encoding is restricted to ASCII character encodings only.



**B.3. Changes to [draft-farinacci-lisp-name-encoding-01](#)**

- o Submitted October 2016.
- o Update document timer.

**B.4. Changes to [draft-farinacci-lisp-name-encoding-00](#)**

- o Initial draft submitted April 2016.

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