Locator/ID Separation Protocol (LISP): Shared Extension Message & IANA
                 Registry for Packet Type Allocations
                    draft-boucadair-lisp-rfc8113bis-00

Abstract

   This document specifies a Locator/ID Separation Protocol (LISP)
   shared message type for defining future extensions and conducting
   experiments without consuming a LISP packet type codepoint for each
   extension. It also defines a registry for LISP Packet Type
   allocations, thus updating
   allocations.

   This document obsoletes RFC 6830. 8113.

Status of This Memo

   This document Internet-Draft is not an Internet Standards Track specification; it is
   published for examination, experimental implementation, and
   evaluation.

   This document defines an Experimental Protocol for submitted in full conformance with the Internet
   community. This document is a product
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   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on March 17, 2019.

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1. Introduction

   The Locator/ID Separation Protocol (LISP) base specification,
   [RFC6830], defines a set of primitives that are identified with a
   packet type code. Several extensions have been proposed to add more
   LISP functionalities. For example, new message types are proposed in
   [LISP-DDT], [LISP-MN-EXT], [LISP-BULK], [NAT-LISP], or

~~[LISP-SUBSCRIBE].~~ It is expected that additional LISP extensions
will be proposed in the future.

~~In order to ease the tracking of LISP message types, this document proposes to create a~~

The "LISP Packet Types" IANA registry (see Section ~~5).~~ **5) is used to ease the tracking of LISP message types.**

Because of the limited type space [RFC6830] and the need to conduct
experiments to assess new LISP extensions, this document specifies a
shared LISP extension message type and ~~proposes~~ **describes** a procedure for
registering LISP shared extension sub-types (see Section 3).
Concretely, one single LISP message type code is dedicated to future
LISP extensions; sub-types are used to uniquely identify a given LISP
extension making use of the shared LISP extension message type.
These identifiers are selected by the author(s) of the corresponding
LISP specification that introduces a new LISP extension message type.

2. Requirements Language

   The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT",
   "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this
   document are to be interpreted as described in [RFC2119].

3. LISP Shared Extension Message Type

   Figure 1 depicts the common format of the LISP shared extension
   message. The type field MUST be set to 15 (see Section 5).

```
        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
       +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
       |Type=15|       Sub-type       |      extension-specific        |
       +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
       //                    extension-specific                      //
       //                                                            //
       +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

              Figure 1: LISP Shared Extension Message Type

   The "Sub-type" field conveys a unique identifier that MUST be
   registered with IANA (see Section 5.2).

   The exact structure of the 'extension-specific' portion of the
   message is specified in the corresponding specification document.

4. Security Considerations

   This document does not introduce any additional security issues other
   than those discussed in [RFC6830].

5. IANA Considerations

5.1. LISP Packet Types

   IANA has created a ~~new~~ protocol registry for LISP Packet Types, numbered
   0-15.

   The ~~registry is initially populated with the following values:~~

~~Message   Code   Reference~~
~~================================== ==== ================~~
~~Reserved   0   [RFC6830]~~
~~LISP Map-Request   1   [RFC6830]~~
~~LISP Map-Reply   2   [RFC6830]~~
~~LISP Map-Register   3   [RFC6830]~~
~~LISP Map-Notify   4   [RFC6830]~~
~~LISP Encapsulated Control Message   8   [RFC6830]~~
~~LISP Shared Extension Message   15   [RFC8113]~~

~~The~~ values in the ranges 5-7 and 9-14 can be assigned via Standards
   Action ~~[RFC5226].~~ **[RFC8126].** Documents that request for a new LISP packet type
   may indicate a preferred value in the corresponding IANA sections.

   **IANA is requested to replace the reference to RFC8113 with the RFC
   number to be assigned to this document. Also, IANA is requested to
   update the table as follows:**

   OLD:

   Message   Code   Reference
   ================================== ==== ===============
   LISP Shared Extension Message   15   [RFC8113]

   NEW:
   Message   Code   Reference
   ================================== ==== ================
   LISP Shared Extension Message   15   [ThisDocument]

5.2. Sub-Types

   IANA has created the "LISP Shared Extension Message Type Sub-types"
   registry. ~~No initial values are assigned at~~ **IANA is requested to update that registry by replacing** the ~~creation of~~

reference to RFC8113 with the
registry; (0-4095) are available for future assignments. RFC number to be assigned to this
document.

The values in the range 0-1023 are assigned via Standards Action.
This range is provisioned to anticipate, in particular, the
exhaustion of the LISP Packet types.

The values in the range 1024-4095 are assigned on a First Come, First
Served (FCFS) basis. The registration procedure should provide IANA
with the desired codepoint and a point of contact; providing a short
description (together with an acronym, if relevant) of the foreseen
usage of the extension message is also encouraged.

6.   References

6.1. Acknowledgments

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009-X.

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the review.

Thanks to Geoff Huston for the RtgDir directorate review.

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