Network Working Group   B. Decraene
Internet-Draft   Orange
Updates: 4379, 6424 (if approved)   N. Akiya
Intended status: Standards Track   C. Pignataro
Expires: May 13, 2015   Cisco Systems
                                                          L. Andersson
                                                             S. Aldrin
                                                  Huawei Technologies
                                                     November 9, 2014

               IANA registries for LSP ping Code Points
                  draft-ietf-mpls-lsp-ping-registry-00

Abstract

   RFC 4379 and RFC 6424 created name spaces for Multiprotocol Label
   Switching (MPLS) Label Switched Path (LSP) Ping. However, those RFC
   did not create the corresponding IANA registries for DS Flags,
   Multipath Type, Pad TLV and Address Types.

   There is now a need to make further code point allocations from these
   name spaces. This document updates RFC 4379 and RFC 6424 in that it
   creates the IANA registries for that purpose.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

   Internet-Drafts are working documents of the Internet Engineering
   Task Force (IETF). Note that other groups may also distribute
   working documents as Internet-Drafts. The list of current Internet-
   Drafts is at http://datatracker.ietf.org/drafts/current/.

   Internet-Drafts are draft documents valid for a maximum of six months
   and may be updated, replaced, or obsoleted by other documents at any
   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on May 13, 2015.

Copyright Notice

1. Introduction

[RFC4379] and [RFC6424] created name spaces for MPLS LSP Ping.
However, those RFC did not create the corresponding IANA registries
for DS Flags, Multipath Type, Pad TLV and Address Types.

There is now a need to make further code point allocations from these
name spaces. In particular [I-D.akiya-mpls-entropy-lsp-ping] and
[I-D.akiya-mpls-lsp-ping-lag-multipath] are requesting allocation
for DS Flags and Multipath Type.

This document serves to update [RFC4379] and [RFC6424] in that it
creates the IANA registries for that purpose.

2. IANA Considerations

This document requests IANA to create new registries within
[IANA-MPLS-LSP-PING] protocol to maintain "DS Flags", "Multipath
Type", "Pad TLV" and "Address Types" fields. Name of registries and
initial values are described in immediate sub-sections to follow.

2.1. DS Flags

[RFC4379] defines the Downstream Mapping TLV, which has the Type 2
assigned from the "Multi-Protocol Label Switching (MPLS) Label
Switched Paths (LSPs) Ping Parameters - TLVs" registry.

[RFC6424] defines the Downstream Detailed Mapping TLV, which has the
Type 20 assigned from the "Multi-Protocol Label Switching (MPLS)
Label Switched Paths (LSPs) Ping Parameters - TLVs" registry.

DSMAP has been deprecated by DDMAP, but both TLVs shares a field: "DS
Flags".

The IANA is requested to create and maintain a registry entitled "DS
Flags" with the following registration procedure:

Registry Name: DS flags.

```
 Bit number Name                                         Reference
 ---------- ------------------------------------------   ---------
          7    N: Treat as a Non-IP Packet               RFC4379
          6    I: Interface and Label Stack Object Request RFC4379
        5-0    Unassigned
```

Assignments of DS Flags are via Standards Action [RFC5226].

Note that "DS Flags" is a field included in two TLVs defined in
"Multi-Protocol Label Switching (MPLS) Label Switched Paths (LSPs)
Ping Parameters - TLVs" registry: Downstream Mapping TLV (value 2)
and Downstream Detailed Mapping TLV (value 20). Modification to "DS
Flags" registry will affect both TLVs.

2.2. Multipath Type

The IANA is requested to create and maintain a registry entitled
"Multipath Type" with the following registration procedure:

Registry Name: Multipath Type.

```
 Value      Meaning                                     Reference
 ---------- ----------------------------------------- ---------
          0    no multipath                            RFC4379
          1    Unassigned
          2    IP address                              RFC4379
          3    Unassigned
          4    IP address range                        RFC4379
        5-7    Unassigned
          8    Bit-masked IP address set               RFC4379
          9    Bit-masked label set                    RFC4379
     10-250    Unassigned
    251-254    Experimental                            This document
        255    Reserved                                This document
```

Assignments of Multipath Types are via Standards Action [RFC5226].

Note that "Multipath Type" is a field included in two TLVs defined in
"Multi-Protocol Label Switching (MPLS) Label Switched Paths (LSPs)
Ping Parameters - TLVs" registry: Downstream Mapping TLV (value 2)
and Downstream Detailed Mapping TLV (value 20). Modification to
"Multipath Type" registry will affect both TLVs.

2.3. Pad Type

   The IANA is requested to create and maintain a registry entitled "Pad
   Type" with the following registration procedure:

            Registry Name: Pad Type.

   Value   Meaning   Reference
   ---------- -- ---------
          0   Reserved   RFC4379
          1   Drop Pad TLV from reply   RFC4379
          2   Copy Pad TLV to reply   RFC4379
      3-250   Unassigned
    251-254   Experimental   This document
        255   Reserved   This document

   Assignments of Pad Types are via Standards Action [RFC5226].

2.4. Interface and Label Stack Address Type

   The IANA is requested to create and maintain a registry entitled
   "Interface and Label Stack Address Type" with the following
   registration procedure:

            Registry Name: Interface and Label Stack Address Type.

   Value   Meaning   Reference
   ---------- -- ---------
          0   Reserved   RFC4379
          1   IPv4 Numbered   RFC4379
          2   IPv4 Unnumbered   RFC4379
          3   IPv6 Numbered   RFC4379
          4   IPv6 Unnumbered   RFC4379
      5-250   Unassigned
    251-254   Experimental   This document
        255   Reserved   This document

   Assignments of Interface and Label Stack Address Types are via
   Standards Action [RFC5226].

3. Security Considerations

   This document simply creates IANA registries for code point defined
   in [RFC4379] and [RFC6424]. Thus, there are no new security
   concerns.

[4](#). Acknowledgements

TBD.

[5](#). References

[5.1](#). Normative References

[RFC4379]   Kompella, K. and G. Swallow, "Detecting Multi-Protocol
            Label Switched (MPLS) Data Plane Failures", RFC 4379,
            February 2006.

[RFC6424]   Bahadur, N., Kompella, K., and G. Swallow, "Mechanism for
            Performing Label Switched Path Ping (LSP Ping) over MPLS
            Tunnels", RFC 6424, November 2011.

[5.2](#). Informative References

[I-D.akiya-mpls-entropy-lsp-ping]
            Akiya, N., Swallow, G., Pignataro, C., Malis, A., and S.
            Aldrin, "Label Switched Path (LSP) and Pseudowire (PW)
            Ping/Trace over MPLS Network using Entropy Labels (EL)",
            draft-akiya-mpls-entropy-lsp-ping-03 (work in progress),
            October 2014.

[I-D.akiya-mpls-lsp-ping-lag-multipath]
            Akiya, N., Swallow, G., Litkowski, S., Decraene, B., and
            J. Drake, "Label Switched Path (LSP) Ping/Trace Multipath
            Support for Link Aggregation Group (LAG) Interfaces",
            draft-akiya-mpls-lsp-ping-lag-multipath-02 (work in
            progress), October 2014.

[IANA-MPLS-LSP-PING]
            IANA, "Multi-Protocol Label Switching (MPLS) Label
            Switched Paths (LSPs) Ping Parameters",
            <http://www.iana.org/assignments/mpls-lsp-ping-parameters/
            mpls-lsp-ping-parameters.xhtml>.

[RFC5226]   Narten, T. and H. Alvestrand, "Guidelines for Writing an
            IANA Considerations Section in RFCs", BCP 26, RFC 5226,
            May 2008.

Authors' Addresses

   Bruno Decraene
   Orange

   Email: bruno.decraene@orange.com

Nobo Akiya
Cisco Systems

Email: nobo@cisco.com

Carlos Pignataro
Cisco Systems

Email: cpignata@cisco.com

Loa Andersson
Huawei Technologies

Email: loa@mail01.huawei.com

Sam Aldrin
Huawei Technologies

Email: aldrin.ietf@gmail.com