

Network Working Group
Internet-Draft
Updates: [4379](#), [6424](#) (if approved)
Intended status: Standards Track
Expires: April 20, 2015

B. Decraene
Orange
N. Akiya
C. Pignataro
Cisco Systems
L. Andersson
S. Aldrin
Huawei Technologies
October 17, 2014

IANA registries for LSP ping Code Points
draft-decraene-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 April 20, 2015.

Copyright Notice

Copyright (c) 2014 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

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-02](#) (work in progress), July 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-01](#) (work in progress), August 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

