

Network Working Group
Internet-Draft
Updates: [4379](#), [6424](#) (if approved)
Intended status: Standards Track
Expires: August 7, 2015

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February 3, 2015

IANA registries for LSP ping Code Points draft-ietf-mpls-lsp-ping-registry-01

Abstract

[RFC 4379](#) and [RFC 6424](#) created name spaces for Multiprotocol Label Switching (MPLS) Label Switched Path (LSP) Ping. However, those RFCs did not create the corresponding IANA registries for the Downstream Mapping object Flags (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

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1. Introduction

[RFC4379] and [[RFC6424](#)] created name spaces for MPLS LSP Ping. However, those RFCs 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.ietf-mpls-entropy-lsp-ping](#)] and [[I-D.ietf-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 share 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.ietf-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-ietf-mpls-entropy-lsp-ping-00](#) (work in progress), December 2014.
- [I-D.ietf-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-ietf-mpls-lsp-ping-lag-multipath-00](#) (work in progress), January 2015.
- [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.

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