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B. Decraene  
Orange  
N. Akiya  
C. Pignataro  
Cisco Systems  
L. Andersson  
S. Aldrin  
Huawei Technologies  
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**IANA registries for LSP ping Code Points  
draft-ietf-mpls-lsp-ping-registry-03**

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.

Note that "DS Flags" and "Multipath Type" are fields 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 their registry will affect both TLVs.

## 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 (DSMAP) 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 (DDMAP) 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	<a href="#">RFC4379</a>
6	I: Interface and Label Stack Object Request	<a href="#">RFC4379</a>
5-0	Unassigned	

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

### 2.2. Multipath Type

The IANA is requested to create and maintain a registry entitled "Multipath Type".

The registration policies [[RFC5226](#)] for this registry are:

0-250	Standards Action
251-254	Experimental Use
255	Standards Action

IANA is requested to make the following initial assignments:

Registry Name: Multipath Type.

Value	Meaning	Reference
0	no multipath	<a href="#">RFC4379</a>
1	Unassigned	
2	IP address	<a href="#">RFC4379</a>
3	Unassigned	
4	IP address range	<a href="#">RFC4379</a>
5-7	Unassigned	
8	Bit-masked IP address set	<a href="#">RFC4379</a>
9	Bit-masked label set	<a href="#">RFC4379</a>
10-250	Unassigned	
251-254	Experimental	This document
255	Reserved	This document



**2.3. Pad Type**

The IANA is requested to create and maintain a registry entitled "Pad Type".

The registration policies [[RFC5226](#)] for this registry are:

- 0-250 Standards Action
- 251-254 Experimental Use
- 255 Standards Action

IANA is requested to make the following initial assignments:

Registry Name: Pad Type.

Value	Meaning	Reference
0	Reserved	This document
1	Drop Pad TLV from reply	<a href="#">RFC4379</a>
2	Copy Pad TLV to reply	<a href="#">RFC4379</a>
3-250	Unassigned	
251-254	Experimental	This document
255	Reserved	This document

**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".

The registration policies [[RFC5226](#)] for this registry are:

- 0-250 Standards Action
- 251-254 Experimental Use
- 255 Standards Action

IANA is requested to make the following initial assignments:



Registry Name: Interface and Label Stack Address Type.

Value	Meaning	Reference
0	Reserved	This document
1	IPv4 Numbered	<a href="#">RFC4379</a>
2	IPv4 Unnumbered	<a href="#">RFC4379</a>
3	IPv6 Numbered	<a href="#">RFC4379</a>
4	IPv6 Unnumbered	<a href="#">RFC4379</a>
5-250	Unassigned	
251-254	Experimental	This document
255	Reserved	This document

### 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. References

#### 4.1. 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.

#### 4.2. 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.

#### Authors' Addresses

Bruno Decraene  
Orange

Email: [bruno.decraene@orange.com](mailto:bruno.decraene@orange.com)

Nobo Akiya  
Cisco Systems

Email: [nobo.akiya.dev@gmail.com](mailto:nobo.akiya.dev@gmail.com)

Carlos Pignataro  
Cisco Systems

Email: [cpignata@cisco.com](mailto:cpignata@cisco.com)

Loa Andersson  
Huawei Technologies

Email: [loa@mail01.huawei.com](mailto:loa@mail01.huawei.com)

Sam Aldrin  
Huawei Technologies

Email: [aldrin.ietf@gmail.com](mailto:aldrin.ietf@gmail.com)

