Updating LSP Ping IANA registries

draft-andersson-mpls-lsp-ping-registries-update

Loa Andersson
Tarek Saad
Carlos Pignataro
Mach Chen

Background

- RFC 4379
  - Defined the registry structure
- RFC 8029
  - Changed some registry entries
  - Not all of it go into the IANA registries
- RFC 8126
  - The rules for IANA registries
- RFC 8166
  - We tried to create the new registry as it is defined in RFC 8029
  - We did not completely align with what we will propose in this new document

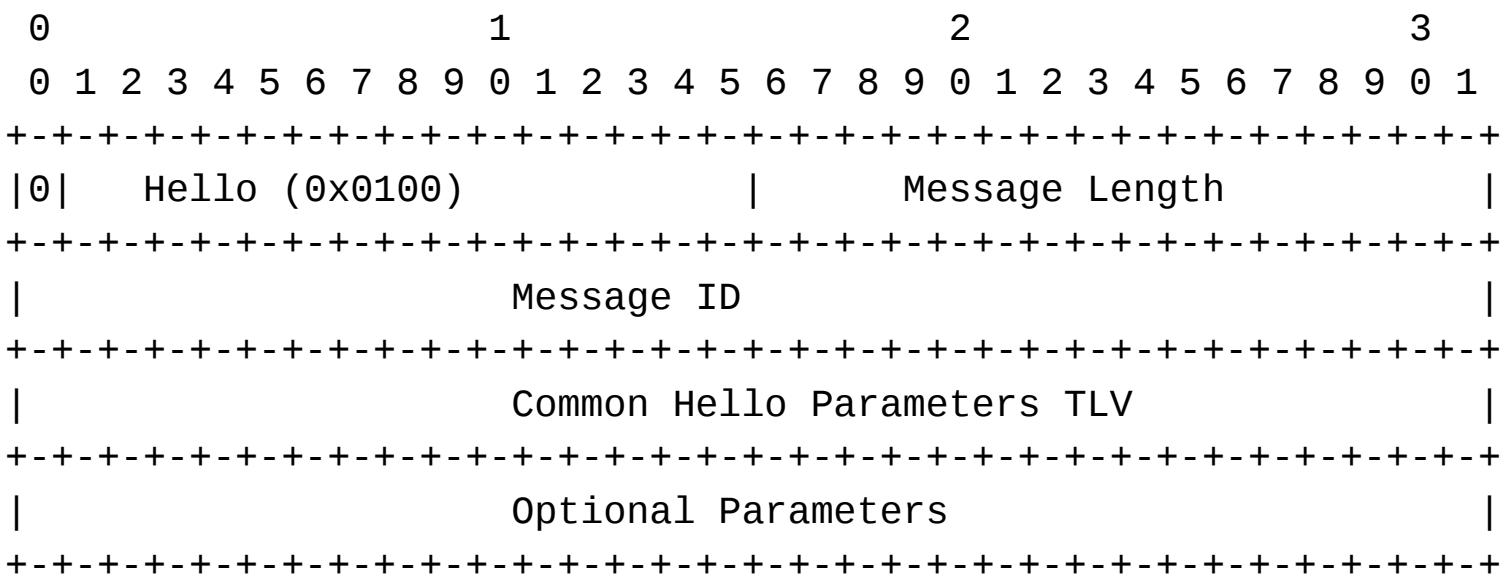
Mandatory and Optional TLVs (and sub-TLVs)

If we start with the majority of IETF RFCs that does TLVs, a mandatory TLV is a TLV that MUST be present in a message to be considered “well-formed”.

An optional TLV is a TLV that might or might not be present.

- Example
  - RFC 5036 (the Hello message)

```
3.5.2.  Hello Message
```



RFC 4379/RFC 8029

- The original MPLS LSP Ping and Traceroute RFC
  - Was inventive when it comes to the use of “Mandatory TLV” and “Optional TLV”
  - In RFC4379/RFC 8029 this is implicit
- **Mandatory TLVs**
  (TLVs with) Types less than 32768 (i.e., with the high-order bit equal to 0) are mandatory TLVs that MUST either be supported by an implementation or result in the Return Code of 2 ("One or more of the TLVs was not understood") being sent in the echo response.
- **Optional TLVs**
  (TLVs with) Types greater than or equal to 32768 (i.e., with the high-order bit equal to 1) are optional TLVs that SHOULD be ignored if the implementation does not understand or support them.

The proposal

We propose that the text in RFC 8029 is changed too:

- For the lower range:
  TLV and sub-TLV Types less than 32768 (i.e., with the high-order bit equal to 0) are TLVs and sub-TLVs that MUST either be supported by an implementation or result in the Return Code of 2 ("One or more of the TLVs was not understood") being sent in the echo response.
- For the higher range:
  TLV and sub-TLV Types greater than or equal to 32768 (i.e., with the high-order bit equal to 1) are TLVs and sub-TLVs that SHOULD be ignored if the implementation does not understand or support them.

Ripple Effects

- This change requires fairly small changes in 3-4 other RFCs
- This is much less that we if we tried to define “mandatory and optional TLVs and sub-TLVs” following RFC 4379/8029, and propagate that change across the 60+ RFCs that references RFC4379 and RFC 8029.

Next Steps

- Update according to the proposal on TLVs and sub-TLVs.
- Add text for documents that are effected.
- Working Group last call.