PCEP controlled ID space

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draft-li-pce-controlled-id-space-14
#IETF 115
Motivation

- RFC 9050 specifies the procedures and PCEP protocol extensions for using the PCE as the central controller, where label forwarding entries are downloaded through extending PCEP.

- I-D.ietf-pce-pcep-extension-pce-controller-sr specifies the procedures and PCEP protocol extensions for using the PCE as the central controller in SR networks.


- However, these documents assume that label/ID range to be used by a PCE is known and set on both PCEP peers.

- This document specify the extension to support advertisement of the various ID space to the PCE to control.
Overview

• For delegating ID space, related ID Space TLV MUST be included in the Open message.

• Each TLV (corresponding to each ID type) SHOULD be included only once in a Open Message.

• The following ID-CONTROL-SPACE TLVs are defined in this document –
  • LABEL-CONTROL-SPACE - for (SR-)MPLS Labels
  • FUNCTION-ID-CONTROL-SPACE - for SRv6 SID FUNCTION ID
LABEL-CONTROL-SPACE TLV

- Block(8 bits): the number of ID blocks.
- Flags(24 bits): Must be 0
- Start(i) (24 bits): the beginning of the label block i.
- Range(i) (24 bits): the range of the label block i.
FUNC-ID-CONTROL-SPACE TLV

- Block(8 bits): the number of ID blocks.
- Flags: L bit indicates the locator information (Loc size + Locator) is included.
- SID structure: same as I-D.draft-ietf-pce-segment-routing-ipv6-15
- Start(i) (Variable length): the beginning of the FUNC ID block i.
- Range(i) (Variable length): the range of the FUNC ID block i.
- Loc size (8 bits): the number of locator blocks. Only when L-flag is set.
- Locator (Variable length): the value of a locator
Update from last presentation

- Srv6 path ID to various FUNC ID
- Add SID Structure
- Add Block field for better extensibility
- Fixed some nits
- Add a new co-author Hang Shi as editor
- It is -14, content is stable. Ask for WG adoption

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