PCE Controlled ID Space
draft-li-pce-controlled-id-space-02

Aijun Wang/Cheng Li/Mach Chen/Lizhenbin
IETF#104
Motivation

• PCECC
  • [I-D.ietf-pce-pcep-extension-for-pce-controller] 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.zhao-pce-pcep-extension-for-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 range to be used by a PCE is known and set on both PCEP peers.

• Other
  • Binding SID allocation
  • Path SID allocation

• In order to allocate ID directly from PCE, PCCs should advertise the PCE controlled ID space to the PCE.
Introduction

• For delegating ID spaces, 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
  • SRv6-FUNCT-ID-CONTROL-SPACE TLV
LABEL-CONTROL-SPACE TLV

- Blocks
  - Start(i) (24 bits): indicates the beginning of the label block (i).
  - Range(i) (24 bits): indicates the range of the label block (i).

- Labels:
  - Such as binding SID and path SID can be allocated directly from the PCE controlled space.
  - PCECC could allocate label for various use-cases
SRv6 FUNCT-ID-CONTROL-SPACE TLV

• Flags:
  • L-flag: Locator flag, set when the locator information is included in this TLV. If L-flag is unset, Loc Size and variable Locator field MUST NOT be included in this TLV, and the ID spaces are applicable to all Locators.

• Blocks
  • Start(i) (128 bits): indicates the beginning of the SRv6 Function ID block (i).
  • Range(i) (128 bits): indicates the range of the SRv6 Function ID block (i).

• Locator
  • Identify the locator for these function ID blocks
  • Applicable when a PCC has multiple locators
Recent Update

- A-Flag: All space flag, set when all the label space is delegated to a PCE.
  - Removed A-Flag since it is useful for PCC to report the full label range anyways
- Adding a new co-author Chao Zhou from Cisco
- Fixed some nits
Next Plan

• We believe this is a missing function in PCECC and SR
  • And quite useful!

• The content is stable, and ready for WG group adoption.
  • Comments and questions are always welcome!
Thank you