PCEP Extensions for Establishing Relationships Between Sets of LSPs and Virtual Networks (VN)

draft-leedhody-pce-vn-association-05

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ACTN VN Association

- Last presented in IETF 98 (-02 version)
- Associating a set of LSPs with a VN "construct" to facilitate VN operations via PCEP
- Using ASSOCIATION object [I-D.ietf-pce-association-group]
  - Associates a set of LSPs created/used for a particular VN.
  - A new Association Type - VN Association Type
  - Two TLVs
    - VIRTUAL-NETWORK-TLV
    - VENDOR-INFORMATION-TLV
VN Association - Changes since -02

Alignment with ACTN framework changes

Alignment with Association group changes
  • Capability advertisement
  • Dynamic Association procedures

Others
  • Detail specification for the VIRTUAL-NETWORK-TLV
  • IANA Considerations
VN Association - Why?

• This ‘association’ allows the child/parent PCEs to identify which LSPs belong to a certain VN.

• Does child PCE (acting as PNC) needs to be aware of this association?
  • Child PCE are responsible for per-domain LSPs; Child PCE of ingress domain may also be responsible for E2E LSPs.
  • Child PCE is made aware of the association between the partial set of LSPs under its preview.
  • Parent PCE is aware of association between full set of LSPs under the VN.

• The child/parent PCE could then use this association to optimize these LSPs (belonging to a VN) together and taking into consideration the impact on the other LSPs

• The child/parent PCE could further take VN specific actions on the LSPs such as relaxation of constraints, policy actions, setting default behavior, as per the local policy identified for a VN.
  • As compared to doing this per LSP
VN Association

- Red VN
- Blue VN

Child Stateful PCE (PNC)
- The VN Association help to find the per-domain LSPs (or E2E) that belong to the same VN.
- During re-optimization, this relationship is factored in during path computation
- Local Policy can be set per VN (rather than individually for each LSP)
Next Step

- The document is stable and aligned to other documents in PCE/TEAS WG.
- The association object is the right approach in PCEP.
- Ready for WG Adoption poll!
thank you