Architecture and Requirement for PCEP-LS

Distribution of Link-State and TE Information via PCEP.

draft-leedhody-teas-pcep-ls-01

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Reincarnation!

In the past life, known as "*draft-lee-pce-transporting-te-data-01*".

Generalized to LS (link-state)!

- Which includes TE of course!

Introduction

This document proposes PCEP based approach for learning and maintaining the Link-State and TE information.

- Architectural considerations and options
- And its impact

[I-D.dhodylee-pce-pcep-ls] (on agenda in PCE) list

- The requirements
- The extensions for PCEP-LS.

Context

https://tools.ietf.org/html/rfc7399#section-3

3. How Is Topology Information Gathered?

It has also been proposed that the PCE Communication Protocol (PCEP) [RFC5440] could be extended to serve as an information collection protocol to supply information from network devices to a PCE. The logic is that the network devices may already speak PCEP; so, the protocol could easily be used to report details about the resources and state in the network, including the LSP state discussed in Sections 14 and 15.

Applicability

When no IGP or BGP-LS running

- in the network
- at the PCE

IGP or BGP-LS running, but

- Receive partial information from PCEP for faster convergence
- Only Incremental update from PCEP
- Or receive from both

Hierarchy of PCE / ACTN

Architecture Options

(1) All Node sends local information

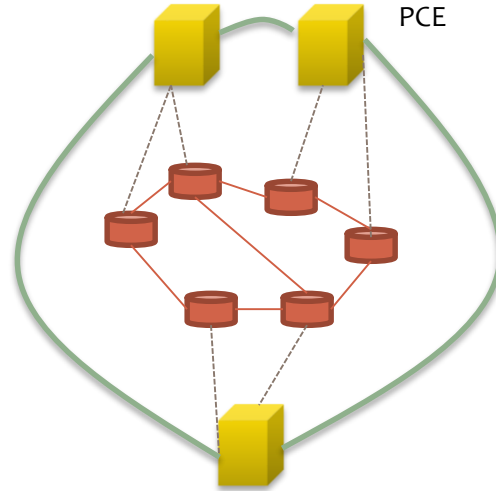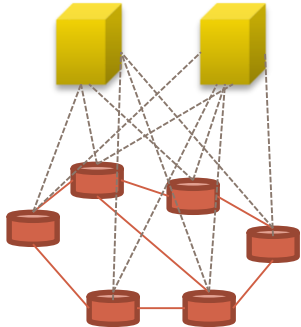(2) Designated Node sends all (local and remote) information

(1.1) All nodes send local information to ALL PCE

(1.2) All nodes send local information to a respective designated PCE which shares information with others

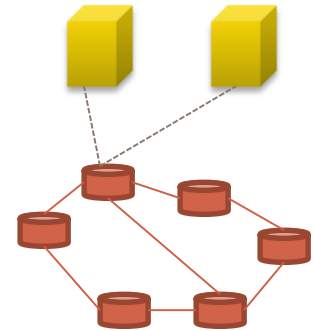(2.1) Designated nodes send all information to PCE

Architecture Options

(1.1) All nodes send local information to ALL PCE

PCE

(2.1) Designated nodes send all information to PCE

(1.2) All nodes send local information to a respective designated PCE which shares information with others

Architecture Options

Parent PCE can use this interface to prepare domain topology map

Also applicable for abstracted topology information can be transported from PNC to MDSC in ACTN

Parent PCE

Child PCE
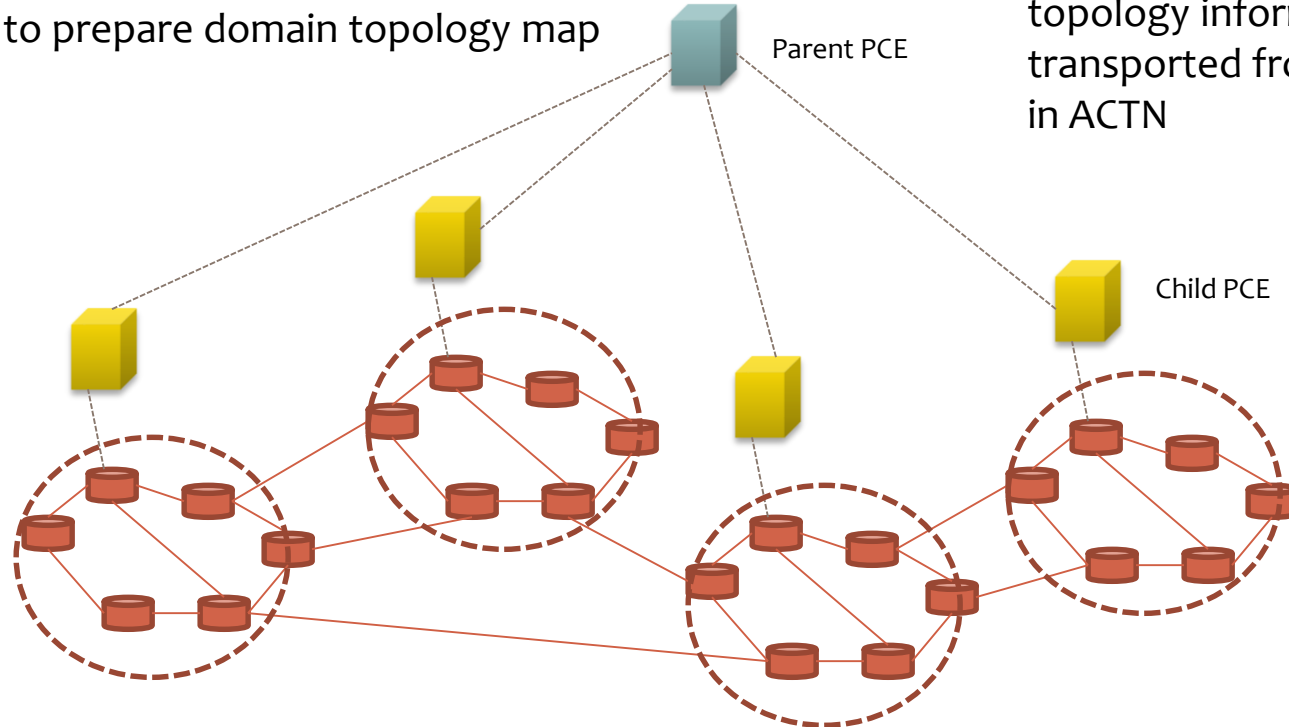
Next Steps

Agree with the current approach?

Comments?

Thanks!