Stateful PCE to Request & Obtain control of an LSP

<draft-raghu-pce-lsp-control-request-02>

Chaitanya Yadlapalli Jay Karthik Dhruv Dhody

Authors:

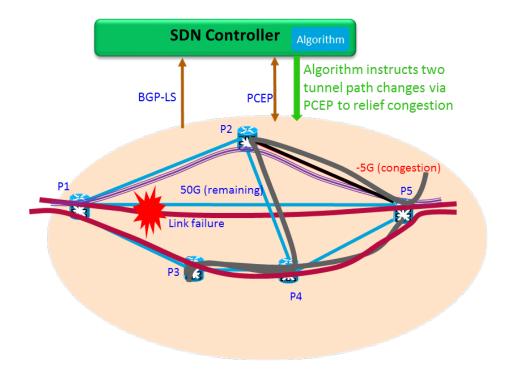
A. Raghuram , A. Goddard, C. Yadlapalli AT&T J. Karthik, S. Sivabalan, J. Parker Cisco Systems, Inc. D. Dhody Huawei Technologies

Rationale for proposing this change (Use Cases)

- The Need for PCE to have control of the LSP for 'Global Optimization'
- Virtual PCE and load balancing for scalability
- Stateful PCE to request control of one or more LSPs during PCE-failure(s)

Global optimization of LSP(s)

- Operators would like to use Stateful PCE for global optimization.
- Global optimization scenarios require PCE to request control of an LSP for optimization and return control back to PCC once done.

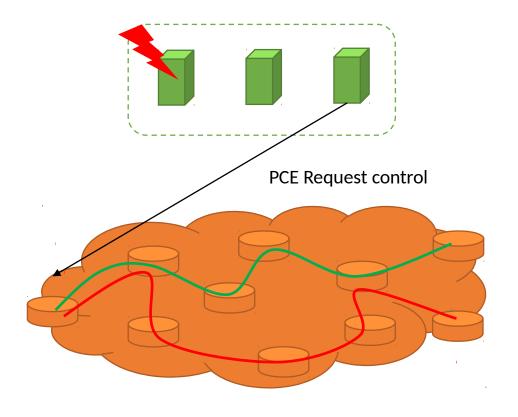


PCE load balancing and Failure

Redundant Stateful PCE – On primary PCE failure, it is up to the PCC to re-delegate to a standby PCE.

But in some cases it may be desirable for "a Stateful PCE to request control of one or more LSPs from a PCC"

PCEs among themselves could have a suitable algorithm to decide which PCE takes control



Also applicable when vPCE (virtual PCE) as VNFs would load balance the LSPs among themselves for scalability

PCEP Extension

A simple extension using which a PCE can request control of one or more LSPs from any PCC.

The procedures for granting and relinquishing control of the LSPs remains same.

- "LSP Control Request Flag" (C) in SRP: On a PCUpd message, a PCE sets the C Flag to 1 to indicate that it wishes to gain control of LSP(s). The LSP is identified by the LSP object.
- The flag has no meaning in the PCRpt and PCInitiate message and MUST be set to 0 on transmission and MUST be ignored on receipt.

Next Step

- Any comments or questions?
- Candidate for WG adoption?

Thank You!