

Stateful PCE – LSP initiation

draft-crabbe-pce-pce-initiated-lsp

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LSP instantiation - what and why

What

- PCE instructs an LER to create (or remove) an LSP
 - Version 00 is MPLS-TE specific

Why

- For support of SDN applications where new paths need to be provisioned based on application demand
 - Works with arbitrary vendors (no need to be aware of config)
 - Lightweight mechanism

LSP creation - how

- New PCCreate message
- Support is negotiated at session establishment
 - New flag in the STATEFUL-PCE-CAPABILITY TLV
- Ability to specify all or just part of the parameters
 - MUST specify endpoints and symbolic name
 - MAY specify ERO, bandwidth, priorities, etc
 - use local values for unspecified parameters
- The PCC can set a limit on the number of PCE-initiated LSPs
- The PCE may update attributes after the instantiation

LSP removal - how

- The PCE can remove an LSP by sending a PCUpd with the R flag set
- Failure handling
 - PCE-initiated LSPs are garbage collected after a failure
 - Garbage collection timer is negotiated at session init time and is distinct from the delegation timeout timer

LSP ownership

- PCE-initiated LSPs are automatically delegated to the PCE
 - Via a PCRpt message sent by PCC
- The PCC may not revoke the delegation
- The PCE may return the delegation (to allow for transfer of control to a different PCE)
 - Returning the delegation triggers the garbage collection timer

Open issues

- IANA section needs to be cleaned up (across all the stateful PCE drafts)
- Error conditions need to be cleaned up (including errors in LSP creation, relay of errors found in LSP setup, etc)
- Security considerations needs to be completed

Q & A