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