State Synchronization Between Stateful PCE

PCE WG, IETF105, Montreal, Canada

draft-litkowski-pce-state-sync-06

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Procedure for Inter-Stateful PCE communications
  • Making PCE deployments more resilient
  • Solve computation loop/optimality issues for dependent path computations (for e.g. diversity)

Scenarios include:
  ✓ Redundant PCEs (backup or load-balance)
  ✓ Inter-domain PCEs / H-PCEs

Discussed previously in IETF 100
Key Concepts

• A PCEP session between stateful PCEs (state-sync session)

• Synchronize LSP state between Stateful PCEs
  – Initial State synchronization in both directions
  – Incremental state - any state change received from PCC is forwarded to other ‘state-sync’ PCEs

• Master/Slave
  – For a set of LSPs (or all LSPs) one PCE becomes ‘Master’
  – LSPs can be sub-delegated to ‘Master’

• Other
  – Use of DB version to maintain the latest change
  – Maintain LSP state from multiple sources
Sync-up Example

- Latest LSP State (V=101)
- Latest LSP State (V=100)
- V=100, ignored
- V=101, ignored

PCE1 ➔ PCE2 ➔ PCC

State Sync Session

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Status & Next Step

- Comments clarified during IETF 100;
- Draft aligned with other stateful PCE and H-PCE work
- Important work for multiple PCE in deployment
- Request WG adoption
THANK YOU!