Yang model for requesting Path Computation

draft-busibel-teas-yang-path-computation-03
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Summary of changes from IETF 98

- Added considerations for stateless and stateful solutions
  - Addressing Dhruv comment at IETF 98
- Close coopeatation with TE Tunnel model authors to resolve common issues
  - Groupings in yang-te-types updated accordingly
- YANG RPC updated
  - Re-defined as an augmentation of TE Tunnel RPCs
  - Aligned with the groupings in yang-te-types
  - Added support of multiple path computation requests (synchronization list)

GitHub Support

- GitHub Repository
  - https://github.com/rvilalta/ietf-te-path-computation
- GitHub support used for
  - Developing and tracking YANG model for stateless RPC
  - Tracking Open Issues, discussions and resolutions linked to YANG model
    - 7 solved since IETF 98
    - 9 remained open and 1 added since IETF 98
      - 5 are being discussed jointly with TE Tunnel

Open Issues - 1

- Topology-id in path constraints [#27]
  - Closed this week via mail exchange with Tarek: any topology entity e.g. source and dst node IDs, are within a given topology namespace
  - A follow-up question is how the topology-id can be chosen and whether path computation can help in choosing it e.g., whether the MDSC can decide to request TE Tunnel setup in topology 1 or in topology 2 after knowing from path computation RPC which paths would be computed in these two topologies and their characteristics
- Use a subset of tunnel-params_config grouping for a Path Computation RPC [#31]
  - TE Tunnel model can regroup non-tunnel generic parameters in a separate grouping that can be reused by the path-computation module: list of attributes to be moved still to be finalized

Open Issues - 2

- Residual BW [#30]
  - New metric for the minimum unreserved bandwidth over all the links traversed by the computed path
  - This is a generic TE concept: draft-lazzeri-pce-residual-bw provides a proposal also to update PCEP

- Relaxable constrains [#19]
  - As in PCEP, specify whether path computation must fail if a constraint is not met or whether the constraint could be relaxed
  - Needed also for path computation RPC. To discuss if we can bring this support to the TE tunnel model

Open Issues - 2

- Class Type [#25]
  - Currently defined for packet/MPLS TE Tunnels. We need an aug mentation for packet/MPLS TE path computation RPC
  - In which document?
- Missing local protection [#24]
  - Use of L flag in the SESSION/ATTRIBUTE object (RFC3209, RFC 5440)
  - Covered in the RSVP-TE MPLS model
  - However, the scenario is to be able to request a controller (e.g., PNC) to setup a TE Tunnel or to perform Path Computation for a path supporting local protection without using the RSVP-TE MPLS model but using only the TE Tunnel model and Path Computation RPC

Next Steps

- Resolve current open issues
  - Continue cooperation with TE Tunnel model authors
- Seeking further comments and feedbacks from WGs
  - How to reduce the number of path computation requests in networks with many domains
    - Implementation issue rather than a standardization issue: just needs to provide a complete toolset encompassing TE Topology, TE Tunnel and a Path Computation RPC
- Ready to become WG document