

# Yang model for requesting Path Computation

draft-ietf-teas-yang-path-computation-03  
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- Thanks to Tarek Saad , Igor Bryskin, Xufeng Liu, Pavan Beeran at al for updating the TE tunnel model resolving some of the common open issues
- Thanks to those who have participated to the mailing list discussion clarifying that the setup path may not be the same as the computed path
- Thanks Dhruv Dhody for his useful suggestion for path verification

# Summary of changes from v02

- Added text to clarify that
  - the path being setup is not necessarily the same as the one returned by path computation
  - a path verification phase is needed to check that the actual path being setup meets the required end-to-end metrics and constraints
- Updated the YANG model to allow requesting the path srlgs and affinities among information being returned together with the result of path computation
- Corrected bugs, solved issues:  
<https://github.com/rvilalta/ietf-te-path-computation>

# Open Issue: TE-Tunnel attributes

- Not all the te-tunnel attributes are needed for path computation
  - name, identifier, description, provisioning-state ...
- Comment: those attributes could be used by “policy based” path computation (policy not specified yet)  
<https://github.com/rvilalta/ietf-te-path-computation/issues/31>
- Not clear outcome from the mailing list discussion:
  - shall we assume that policy is not needed and select a subset of attributes needed for path computation?
  - set of attributes still to be discussed in details

# Open Issue: Mandatory Constraints

- General question: shall we consider an alignment between PC EP and Yang models?
- Example for path computation:
  - PCEP offers the possibility to decide whether a constraint (almost any object actually in PCEP) must be considered by the path computation or may be ignored to permit path computation to relax a constraint in case it can be honored.
  - TE-tunnel model has a different mechanism to provide similar feature with an ordered list of paths computed with different constraints and then the possibility to choose one or the other depending of optimization purpose.
- Question to the TEAS WG: do we need to reconcile them?  
<https://github.com/rvilalta/ietf-te-path-computation/issues/35>

# Proposed enhancement to RPC

- Different opinion in the mailing list about whether the path being setup should be the same as the path previously computed using path computation RPC:
  1. If network conditions do not change need to setup exactly the same path computed before
  2. In any case no need to setup the same path , provided that it has the same or even better metrics than the path computed before.
- Possible optional enhancement to request the setup of a path already computed using path computation RPC:
  - The server maintain a «temporary state» within the «state DS» for each computed path
  - The client can request the setup of a TE Tunnel using the same «tunnel name» of an existing path in the «state DS» : the server will setup that path, if still available
- The behavior would be similar to the stateful solution (compute-only te-tunnel) without relying on «permanent» state in the «config DS»
- Proposal described to the TEAS WG via e-mail on October 31, 2018
- Question to the TEAS WG: would such a solution be useful?

# Open Issues status

- GitHub Repository  
<https://github.com/rvilalta/ietf-te-path-computation>
- Tracking Open Issues, discussions and resolutions linked to YANG model
  - 4 closed since IETF 102
  - 9 open (only 2 new since IETF 102)
    - 4 specific for path computation RPC
    - 3 are being discussed jointly with TE Tunnel
    - 1 editorial (review terminology)
    - 1 pending the YANG model becoming stable (example of path computation request)

# Next Steps

- Resolve current open issues
  - Continue cooperation with TE Tunnel and T E Topology model authors
- Provide guidance for technology specific augmentations
  - Synch up with OTN tunnel model authors, WSON and flex-grid tunnel authors