

Overlay Networks - Path Computation Approaches

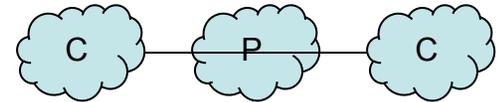
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Problem Statement

- To be able to compute TE paths across multiple overlaying (or peering) networks or administrative domains.
- The objective of the draft is to:
 - Identify the path computation use-cases.
 - Describe different approaches on how this can be achieved.

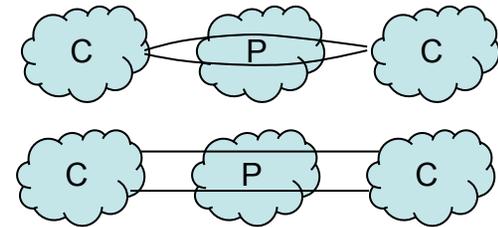
Use-cases

- Point-to-point paths

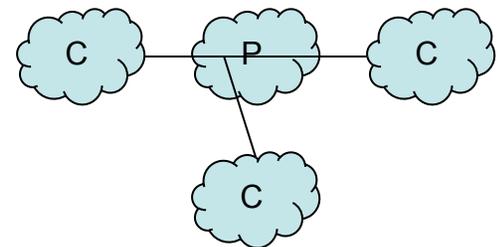


- Diversity

- Single head and tail end nodes
- Multiple head and tail end nodes



- Point to multipoint paths

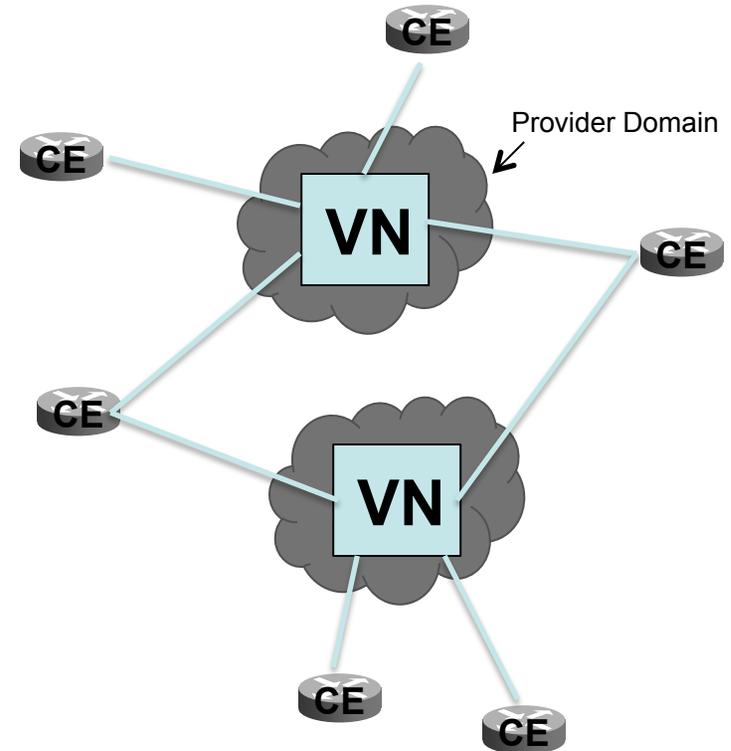


Approaches

- Virtual topology approach
 - Abstract or virtual nodes
 - Abstract or virtual links
- PCE approach
 - BRPC
 - Hierarchical PCE
 - Top-level parent PCE that operates across multiple administrative domains may not be available.
- Hybrid approach – virtual topology and PCE
 - Use virtual topology to determine domain entry and exit points.
 - Use PCEP to request for intra-domain paths.

Hybrid Approach Example

- PE nodes advertises a virtual-node representing the whole provider network or domain.
- CE node determines the entry and exit end-points using the virtual topology.
- CE node then sends a path computation request to the appropriate PCE.



Comments?

Thank You