

P2P Tunnel Policy YANG Data Model

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Tunnel Policy

- There are multiple tunnel types that can be used for VPN services such as:
 - LDP LSPs, CR-LSP, GRE, SR-LSP, SR-TE, ...
- The draft
 - defines a YANG data model that can be used to configure and manage point-to-point tunnel policy.
 - It assumes two policy types
 - Selection Sequence
 - Tunnel Binding

Selection Sequence

- Selection Sequence: The system selects a tunnel for the service based on the tunnel type priorities defined in the tunnel policy.
- In selection-sequence mode, tunnels are selected in sequence.
 - If a tunnel listed earlier is Up and not bound, it is selected regardless of whether other services have selected it;
 - If a tunnel is listed later, it is not selected except when load balancing is required or the preceding tunnels are all in the Down state.

Tunnel Binding

- Tunnel binding, as a tunnel policy mode, binds a tunnel with a destination IP address. It is only applicable to TE tunnels.
 - Multiple TE tunnels can be specified for the same destination IP address to perform load balancing.
 - The down-switch attribute can be specified to ensure that other tunnels can be selected when all the designated tunnels are unavailable, which minimizes traffic interruption.

Tunnel Selection Principles

- If a tunnel policy designates no TE tunnel for the destination IP address, the tunnels selection sequence is LSP, CR-LSP.
- If a tunnel policy designates a TE tunnel for the destination IP address, and the designated TE tunnels is available, that TE tunnel is selected.
- If a tunnel policy designates a TE tunnel for the destination IP address, but the designated TE tunnels is unavailable, the tunnel-selecting result is determined by the down-switch attribute.
 - If the down-switch attribute is configured, another available tunnel is selected based on the sequence of LSP, CR- LSP, and GRE tunnel;
 - If the down-switch attribute is not configured, no tunnel is selected.

Tunnel Policy Selectors

- A tunnel policy selector consists of an ordered list of policy nodes.
- Each policy node comprises a set of if-match and apply clauses. The route is tested against the if-match clauses and if it matches all of them, selection does not continue to the next policy node.
 - The if-match clauses define the matching rules that are used to match certain route attributes such as the next hop and RD. When a route matches a policy node, the apply clause selects a tunnel policy for the route.
 - The modes of a node are
 - Permit: The apply clauses are applied to the route.
 - Deny: The route is denied.

Next Steps

- We think the draft is a pretty good shape.
- Please look at it and send comments to the list.
- We will update the draft and ask for WG Adoption.
- Thanks!

END

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