Basic YANG Model for Steering Client Services To Server Tunnels

draft-bryskin-teas-service-tunnel-steering-model-02

Igor Bryskin (Huawei Technologies)

Xufeng Liu (Volta Networks)

Vishnu Pavan Beeram (Juniper Networks)

Tarek Saad (Juniper Networks)

Rationale:

- No good universal way to bind tunnels to their clients/services
- Service-to-tunnel mapping is service specific
- Tunnel utilization efficiency and scalability issues
- Service to tunnel re-mapping difficulties

Tunnel pool

- Identified by network unique ID
- Comprised of tunnels with similar properties (e.g. fast tunnels)
- Managed by service orchestrator via configuring tunnel types, IDs and references to appropriate tunnel data stores for pool tunnel components.
- Services are mapped to tunnel pools via pool IDs
- Provides via state information services that are currently mapped onto the tunnel pool

Advantages of service to tunnel pool mapping approach

- Scalability and efficiency of network resource utilization
- Automation, transparency and elasticity
- Service to tunnel mapping is decoupled from service definition, tunnels could be shared among multiple services of different types

Progress since the previous version

- Removed tunnel/service redundant attributes accessible via respective tunnel/service data stores (based on discussions during and after IETF103)
- Editorial changes

Next steps

- Soliciting more discussions, comments and contributions
- Should we consider steering services not just to e2e tunnels, but also to abstract topologies (e.g. SF-aware topologies), network slices, etc.?