Yandex

SR – Egress Peering Engineering

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Three components

- Distribution of External Topology and TE Information
  - Automated allocating of the related BGP Peering SID and FRR
  - Automated update of the peering characteristics: BW, Lat, SRLG…
- Centralized Decision Process
  - Collection of all paths from all peers, SLA information etc.
  - Decision for source nodes
- Programming TE policy
  - Implement the decision at the source nodes

Problem:
Need to make flexible exit-point selection decisions while separating decision policy and implementation mechanism

BGP Peering SID

- PeerNode SID: local SID bound to an eBGP Peer
  - MPLS Dataplane: POP and forward on any interface to the peer
- PeerAdj SID: local SID bound to an external interface
  - MPLS Dataplane: POP and forward on the related interface
- PeerSet SID: local SID bound to a set of eBGP peers
  - MPLS Dataplane: POP and forward on any interface to the set of peers

BGP Peering SID

- Upon the establishment of a peer, the related PeerNode SID is automatically allocated.
- If the peer is multi-hop, a PeerAdj SID is automatically allocated for any interface on the path to the peer
- A PeerSet must be defined by a policy provisioned by the operator. A PeerSet SID is allocated to any defined PeerSet

Topology Distiribution

- draft-previdi-idr-bgpls-segment-routing-epe-00

Centralized decision process

- Collect inputs: valid paths, internal topology, demand matrix.
- The details of decision making are out of the scope the standardization effort

Implementing policy

- PCEP
- Netconf
- BGP 3107 policy route
- VPNv[46] policy route
- Flowspec
- Anything else

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Questions?