Forward Search P2MP TE LSP Inter-Domain Path Computation

draft-chen-pce-forward-search-p2mp-path

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Characteristics of Forward Search P2MP Inter-domain Path

- No domain path tree or domain sequence is needed
- Guarantee the path found from a source to multiple destinations is shortest
- Simple and efficient

Forward Search P2MP Inter-domain Path

- Start from the source node and the source domain.
- Consider optimal path segment from source node to every exit boundary node of the source domain as a special link;
- Consider the optimal path segment from an entry boundary node to every exit boundary node of a domain as a special link; and the optimal path segment is computed as needed.
- The whole topology consisting of many domains can be considered as a special topology, which contains those special links, the normal links in the destination domain and the inter-domain links.
- Compute a shortest path in this special topology from the source to the destinations using CSPF.
- Count the number of destinations to which paths found until paths to all destinations found.



Forward Search P2MP Inter-domain Path (Animated)





- Welcome comments
- Request to make it into a working group document

Request Message Extension

```
<PCReq Message>::= <Common Header>
           [<svec-list>]
           <request-list>
<request-list>::=<request>[<request-list>]
<request>::= <RP>
       <FND-POINTS>
       [<OF>]
       [<LSPA>]
       [<BANDWIDTH>]
       [<metric-list>]
       [<RRO>[<BANDWIDTH>]]
       [<IRO>]
       [<LOAD-BALANCING>]
       [<result-path-list>]
       [<candidate-node-list-obj>]
       [<rest-destination-nodes>]
```