

# Forward-Search P2P/P2MP TE LSP Inter-Domain Path Computation

draft-chen-pce-forward-search-p2p-path-computation  
draft-chen-pce-forward-search-p2mp-path

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# Requirements for Inter-domain Path

## RFC 4105 “Requirements for Inter-Area MPLS TE”

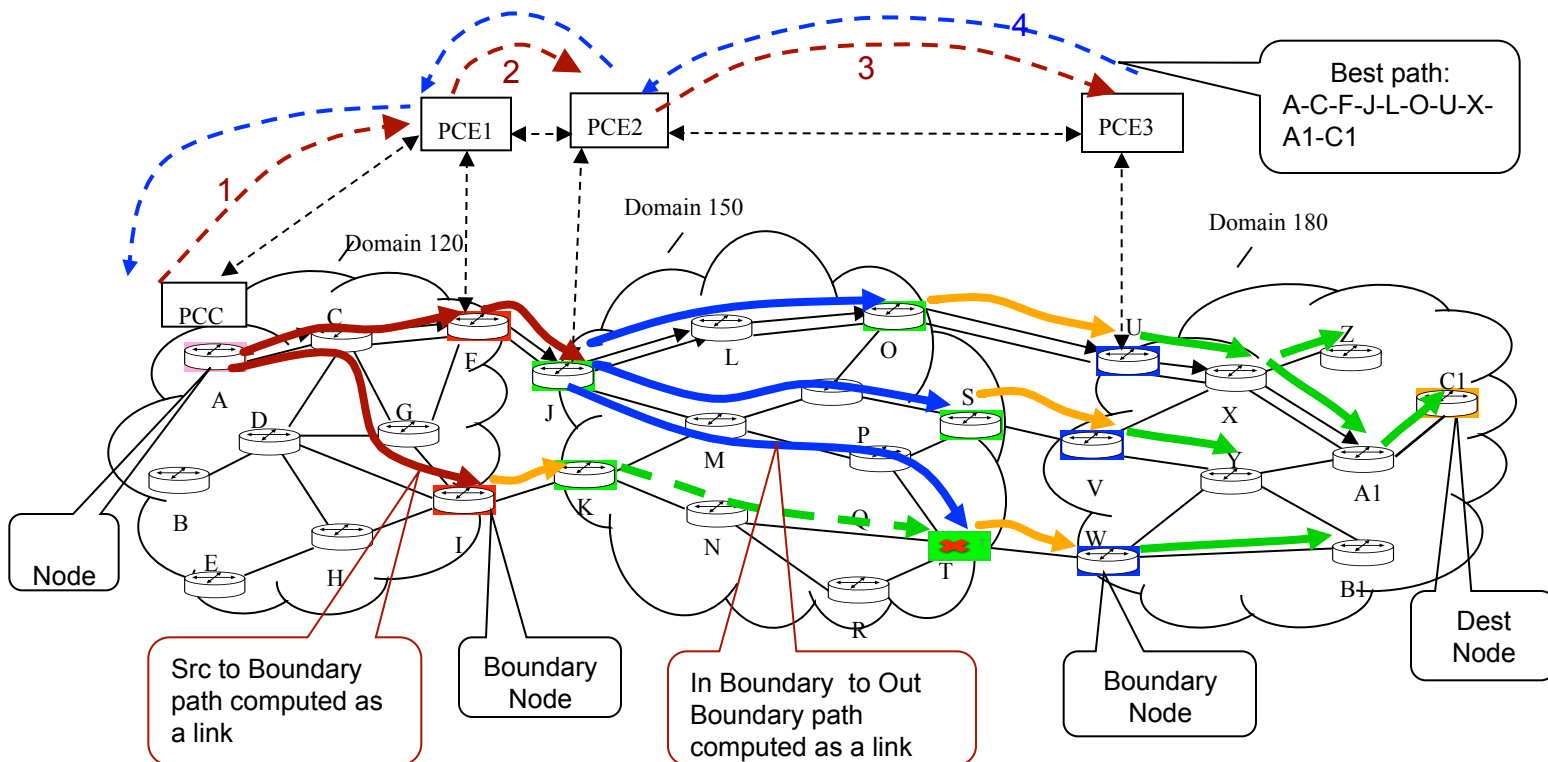
- The solution SHOULD provide the capability to compute a **shortest path dynamically**, satisfying a set of specified constraints across multiple **IGP areas**.
- The solution MUST provide the ability to **re-optimize** in a **minimally disruptive** manner (make before break) an inter-area TE LSP, should a more optimal path appear in any traversed IGP area.

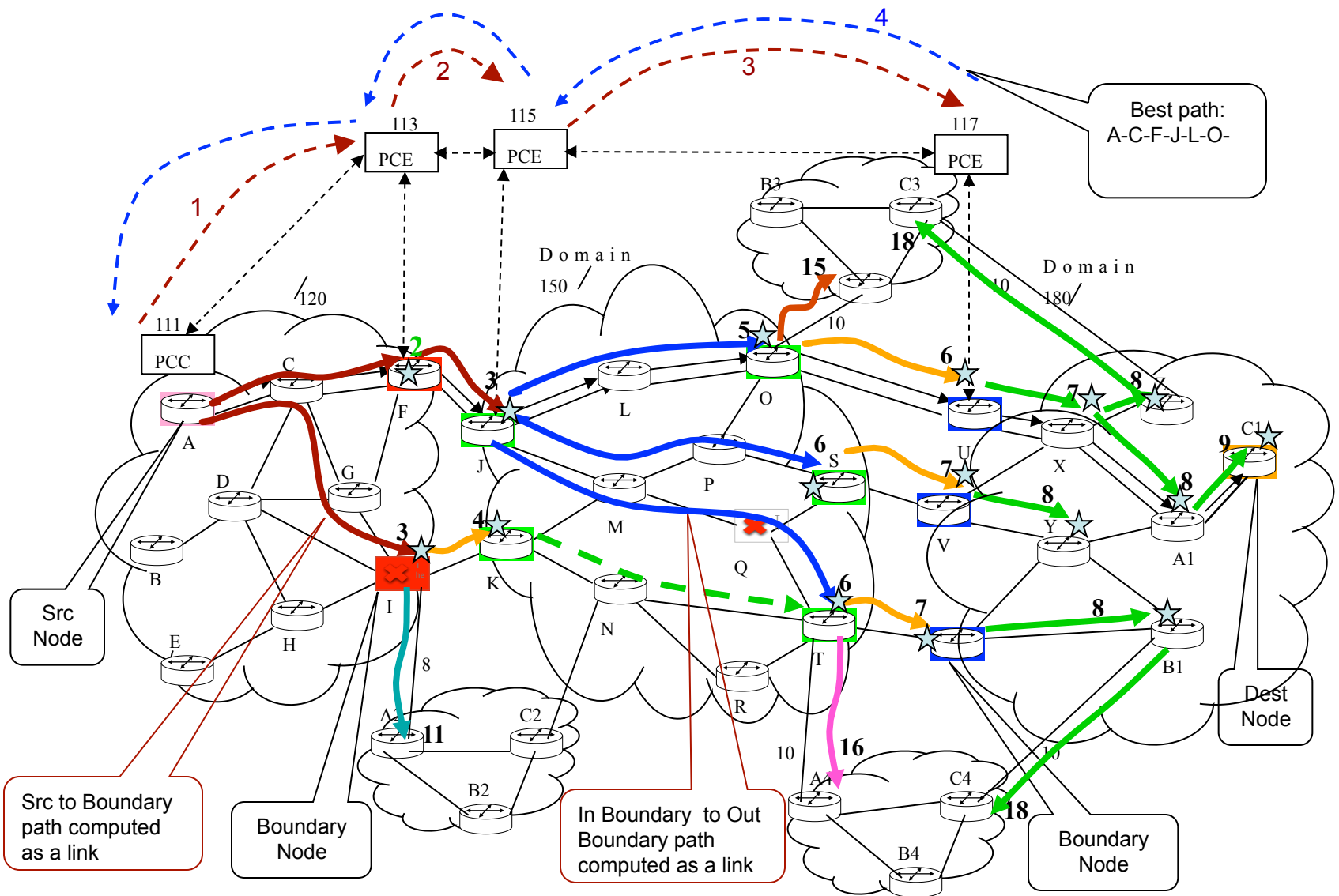
## RFC 4216 “MPLS Inter-AS TE Requirements”

3. The solution SHOULD provide mechanisms to compute a **shortest end-to-end path** for a TE LSP crossing multiple **ASes** and satisfying a set of specified constraints dynamically.
4. Once an inter-AS TE LSP has been established, and should there be any resource or other changes inside anyone of the ASes, the solution MUST be able to **re-optimize** the LSP accordingly and **non-disruptively**, either upon expiration of a configurable timer or upon being triggered by a network event or a manual request at the TE tunnel Head-End.

# Forward Search P2P Inter-domain Path

- Start from the source node and the source domain.
- Consider the optimal path segment from source node of an entry boundary node to every exit boundary node of the source domain as a special link, and the 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, which





★ On the shortest path tree

# Forward Search P2MP Inter-domain Path

Similar to **Forward Search P2P Inter-domain Path**

- Build a shortest path tree in the special topology from the source to the destinations using CSPF.
- Count the number of destinations on the tree until all the destinations on it.

On shortest path

# Next Step

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