BGP for P2MP-LSP

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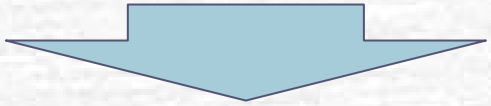
Motivation

- Need the fast recovery mechanism for the Multicast traffic
- Need the Traffic-Engineering feature for the Multicast traffic
- Need the Inter-Domain Multicast environments

Problems

- P2MP TE-LSP has already proposed
- P2MP TE-LSP use RSVP extension
  - IGP area configuration will restrict P2MP-LSP deployment
    - Lack of mechanism to discover/notify the P2MP capable node on Inter-Area/Inter-Domain
  - Increase a lot of path-state

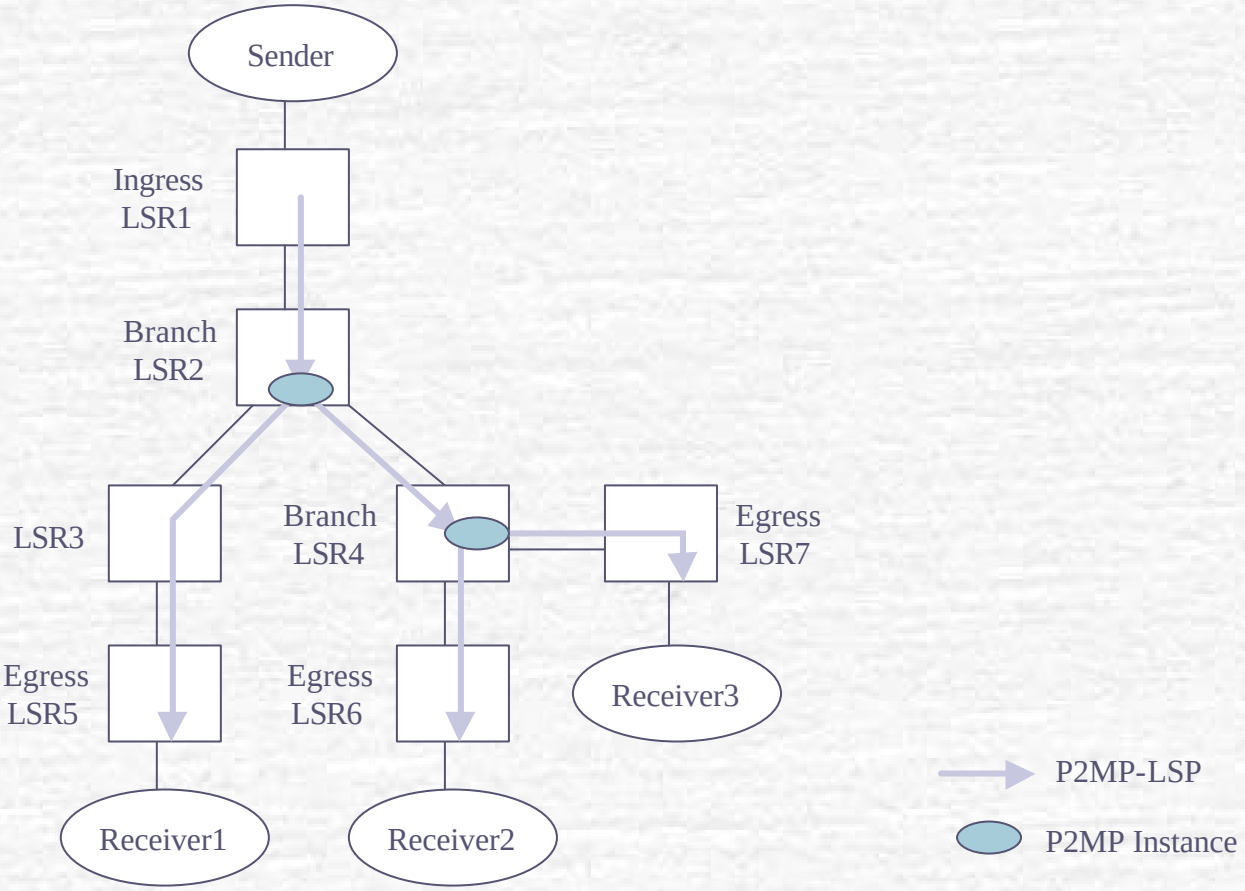


We have BGP!

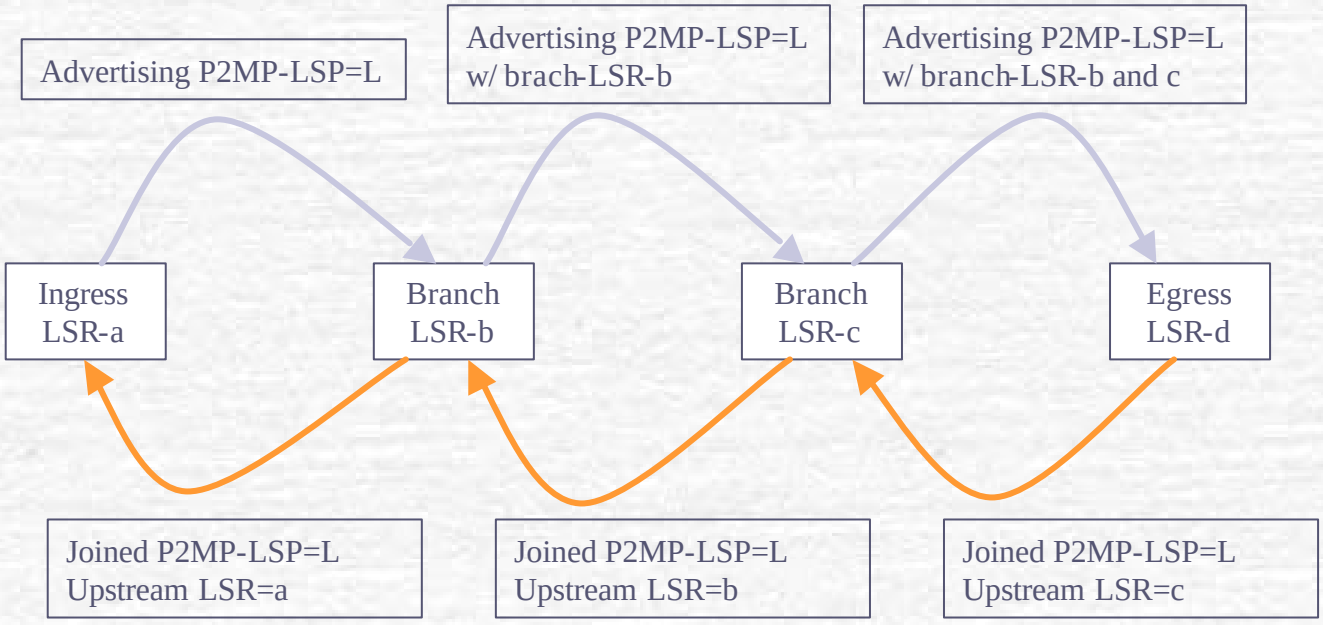
Advantage of BGP for P2MP

- Applicable for the Inter-Area/Inter-Domain
  - BGP messages traverse Area/Domain border
  - Easy and mature policy-control
- BGP-LSP stitch P2MP-LSP on Branch-LSR
  - P2MP path-state/instance exist at Branch-LSR
  - Core/non-P2MP LSR doesn’t have path-state of P2MP-LSP

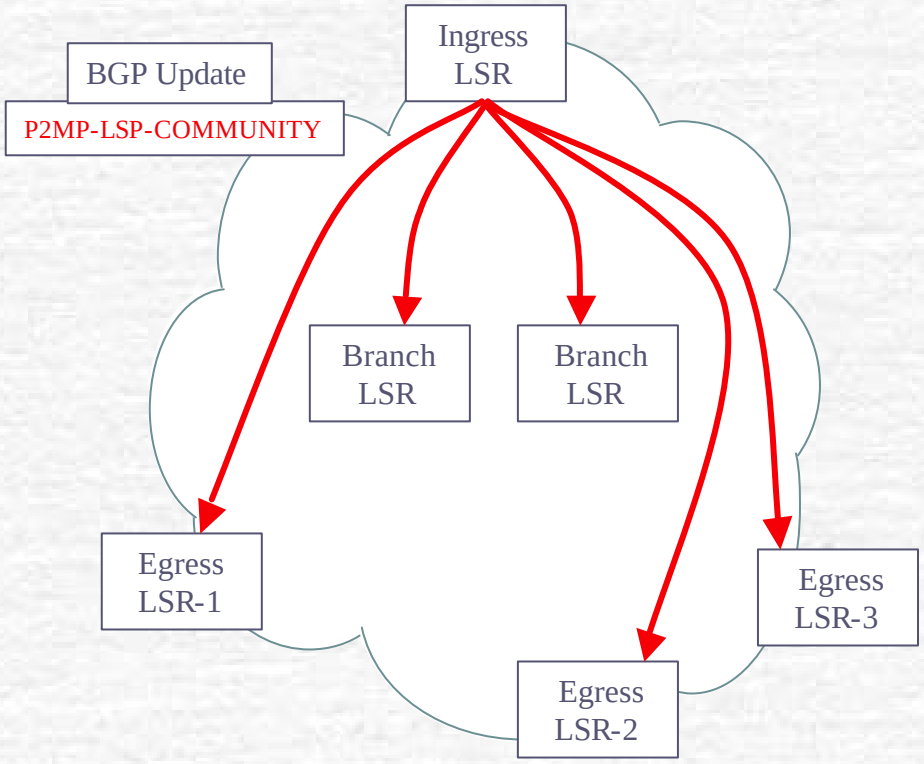
P2MP-LSP Overview



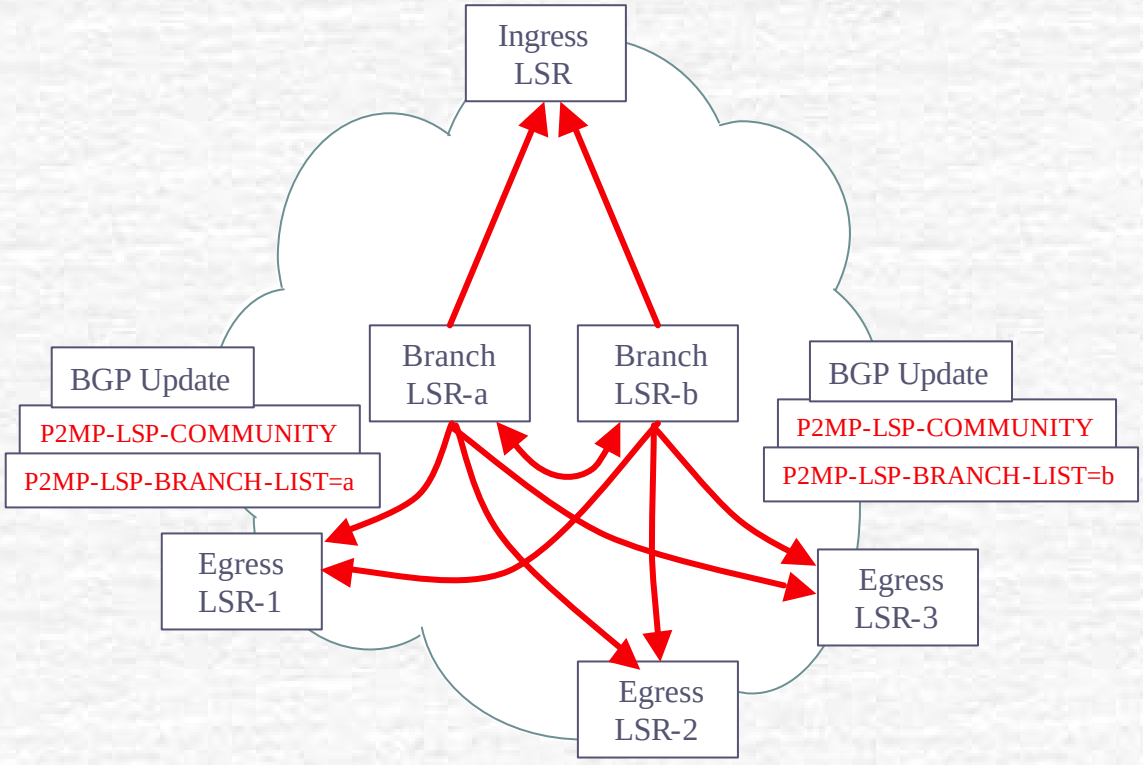
BGP for P2MP LSP



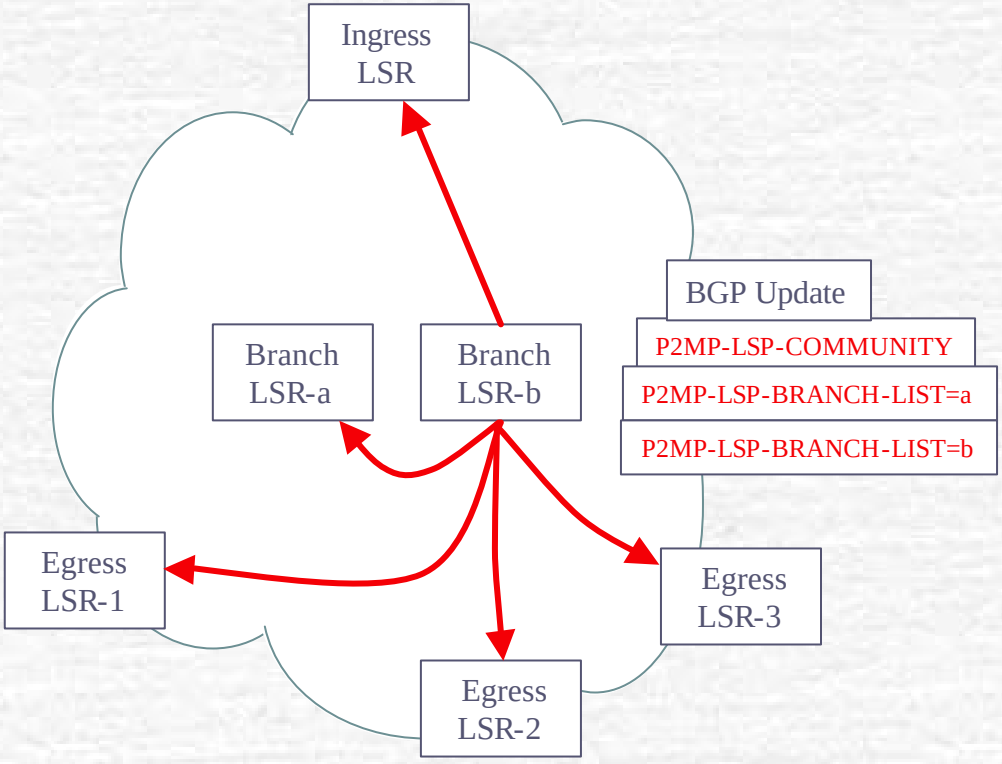
Flood P2MP info to the network



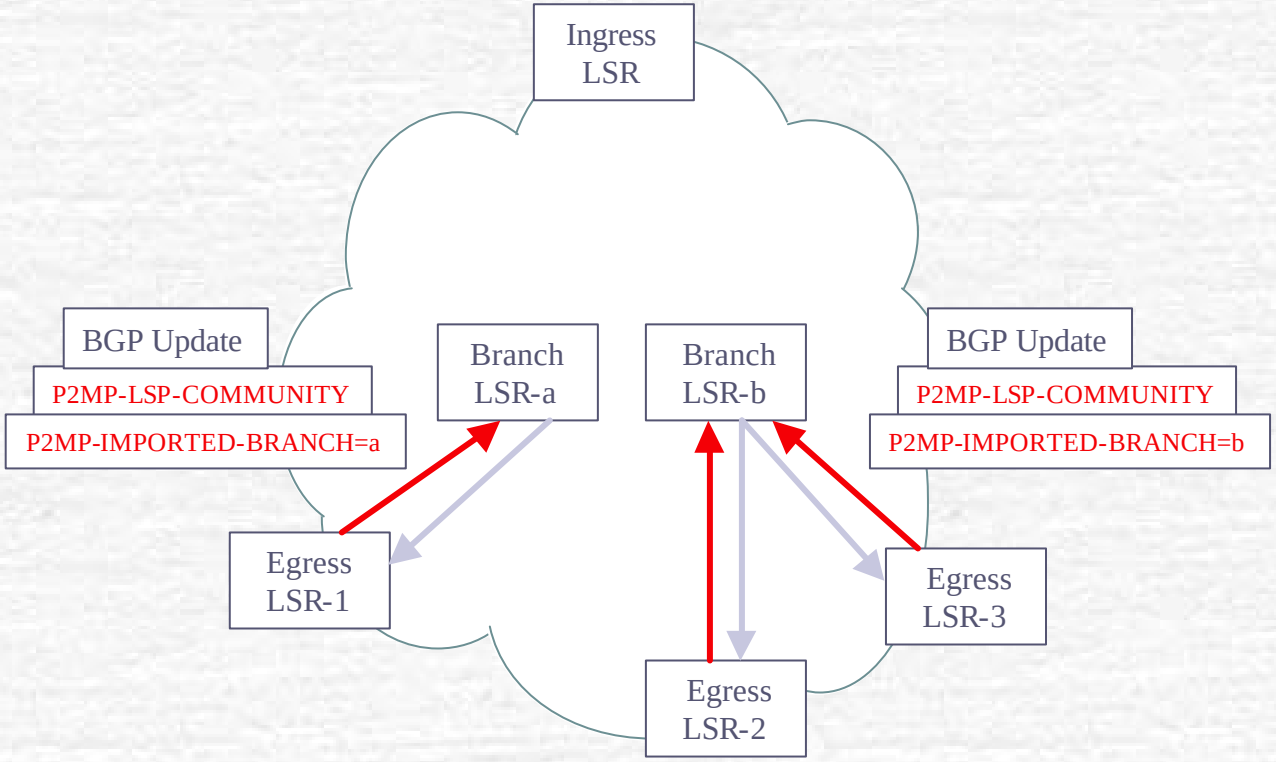
Flood P2MP capable info to the network



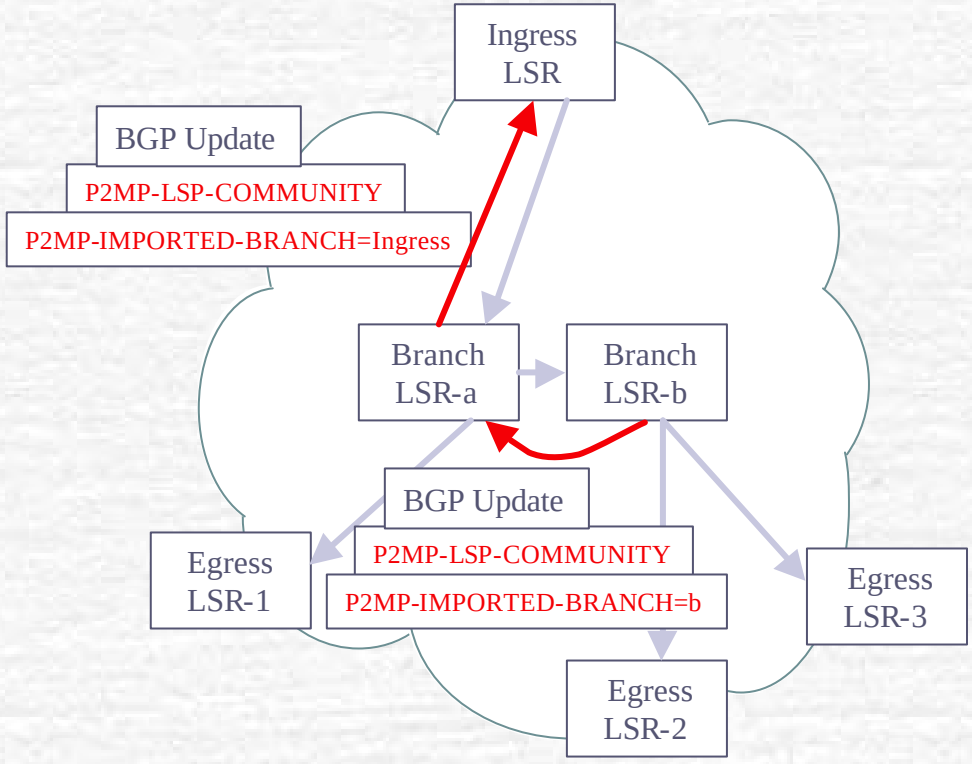
Making the branch-node tree



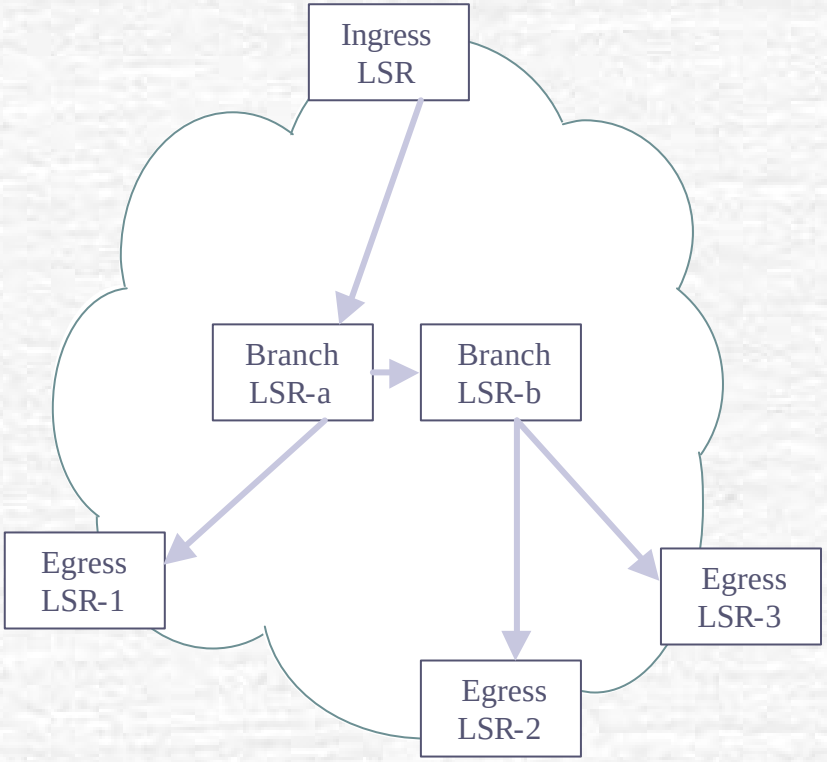
Join to P2MP-LSP(1)



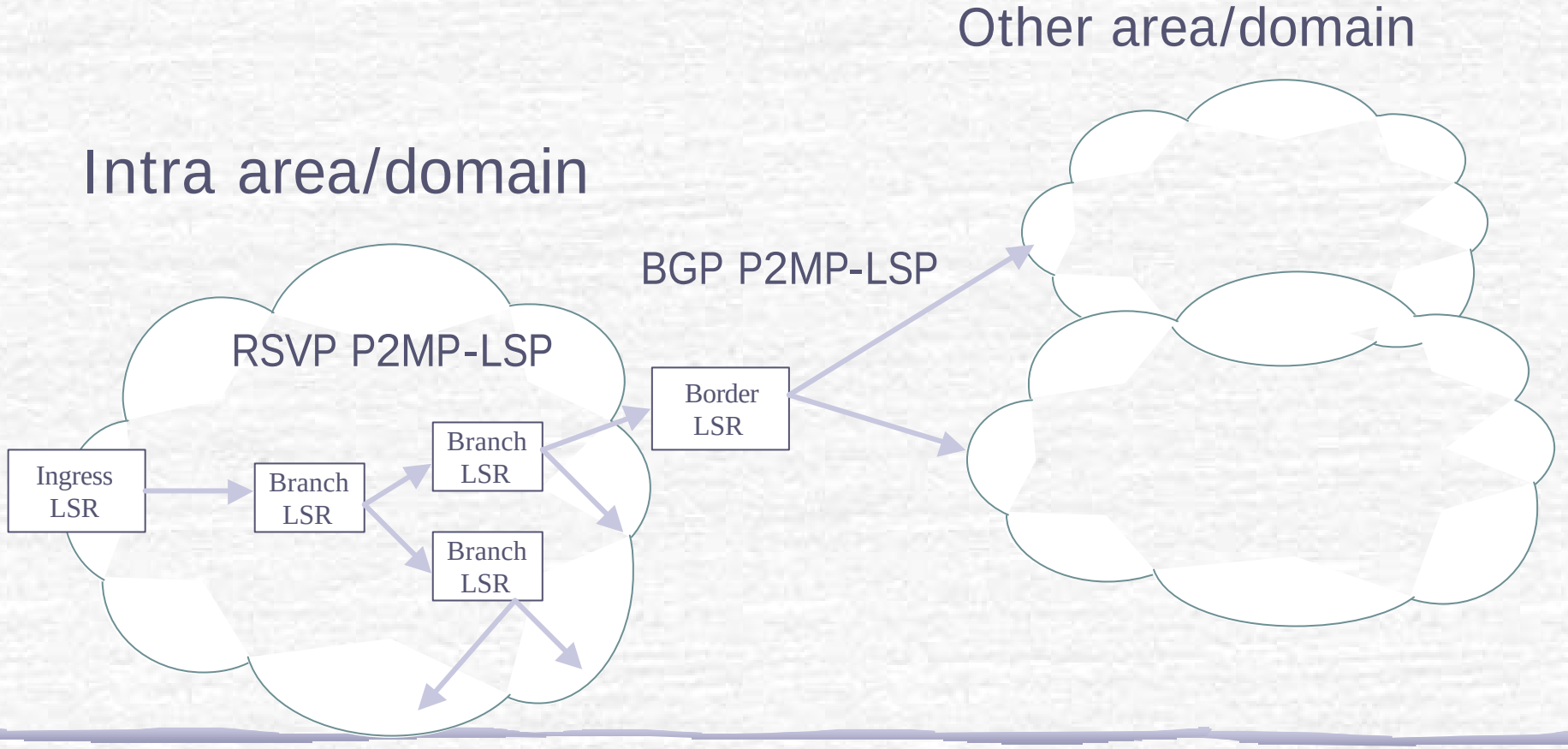
Join to P2MP-LSP(2)



Established P2MP-LSP



Coexisting w/ RSVP-P2MP Scenario



Summary

- BGP is applicable for P2MP-LSP
  - Inter-Area/Domain
  - Saving number of path-state
- BGP P2MP-LSP can co-exist w/ P2MP-TE-LSP

Thank you!