

# Overheads Reduction for IS-IS Enabled Spine-Leaf Networks

draft-chen-isis-sl-overheads-reduction-00

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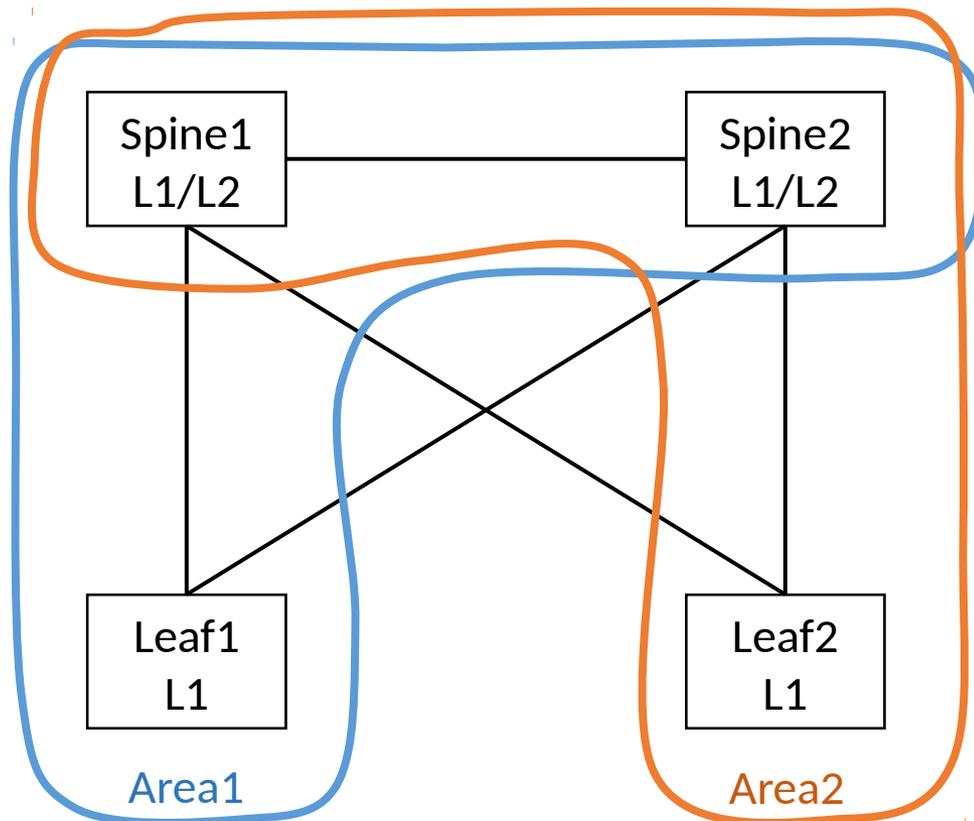
2017.3.31

# Motivations

- When using IS-IS in highly symmetric topologies (e.g., Fat-Tree, Leaf-Spine), Leaf nodes benefit little from learning the whole topology.
- Current IS-IS's area-partition and multi-level functions cannot solve the problem.
- In this document:
  - IS-IS router SHOULD check the Area Identifier before (re)advertising a LSP.
  - Operators can use IS-IS's area-partition and multi-level functions to prevent Leaf nodes from learning the whole topology.

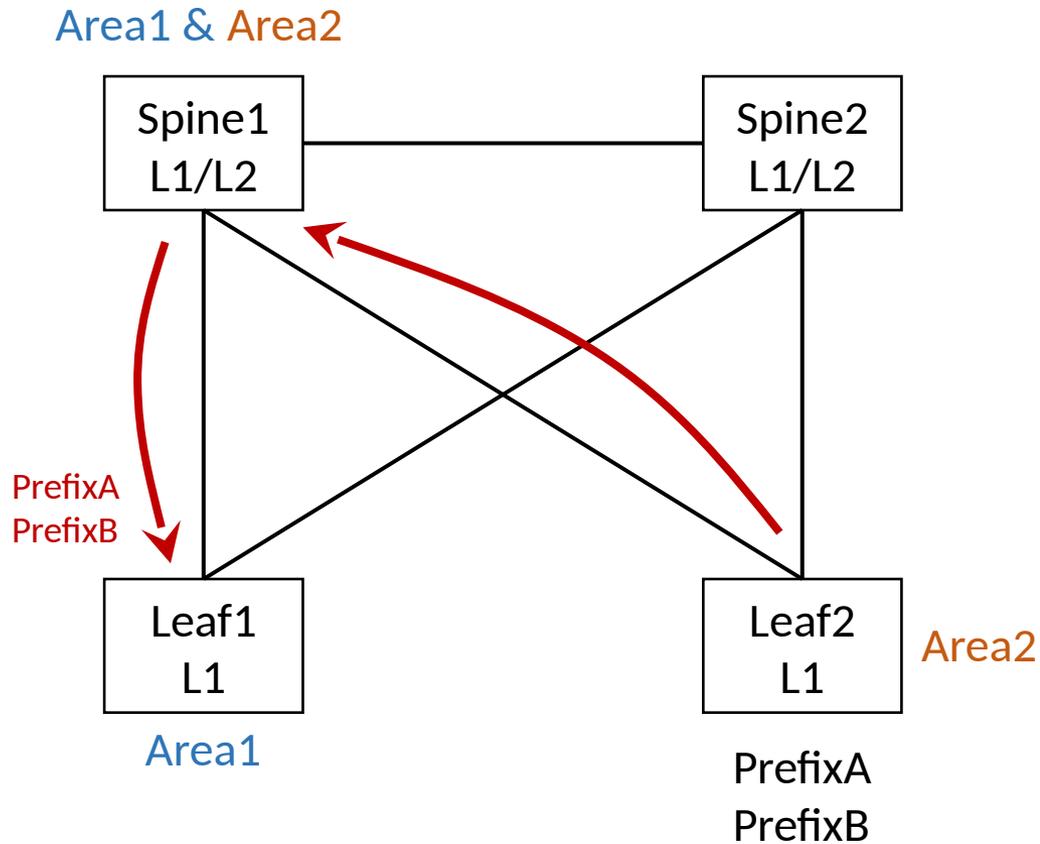
# Solution Overview

- Using IS-IS's area-partition and multi-level functions to prevent Leaf nodes from learning the whole topology:



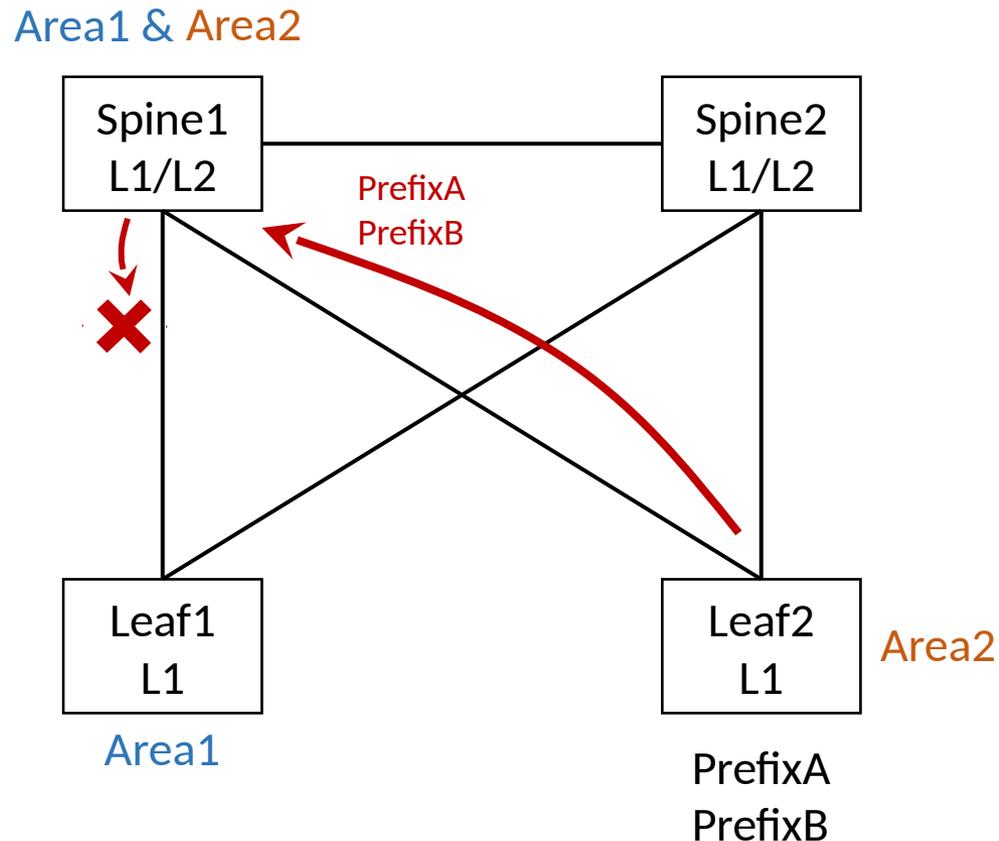
# Solution Overview

- Current IS-IS router:



# Solution Overview

- In this document, IS-IS router SHOULD check the Area Identifier before (re)advertising a LSP:



# Details

- Before an IS-IS router advertises a Level-1 LSP to a Level-1 neighbor, it SHOULD compare the AIDs associated with the LSP and the AIDs associated with the neighbor:
  - If they have at least one AID in common, the router SHOULD advertise the LSP to the neighbor.
  - Otherwise, the router MUST NOT advertise the LSP to the neighbor.

# Discussions

- The AID checking mechanism puts little effect on the current usage:
  - In usual cases, an IS-IS router is assigned no more than one AID.
  - An IS-IS router is assigned more than one AIDs only when 1) it is desirable to change the AID of an area, 2) to merge two areas into one area, or 3) to partition an area into two areas.

# Next Steps

- We need more reviews and comments.