IS-IS Spine-Leaf Extension

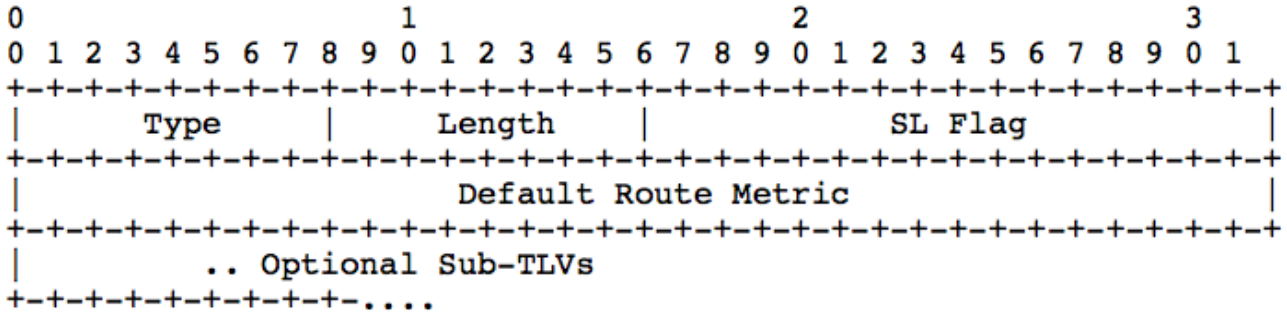
draft-shen-isis-spine-leaf-ext-01

IETF 96, Berlin

Spine-Leaf

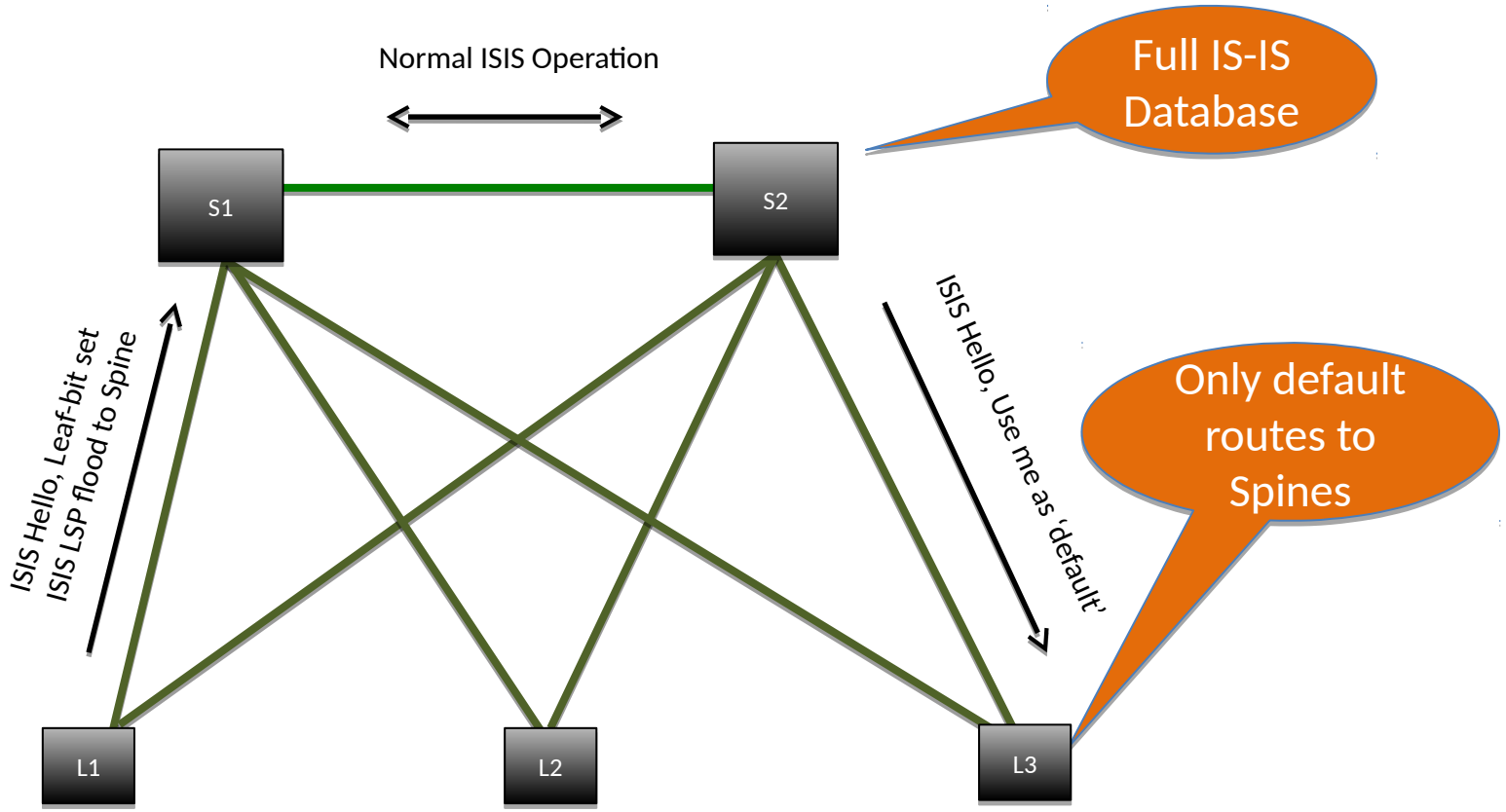
- Popular in Data Center and Campus
- Normally leaf-to-leaf traffic goes through one of the spine nodes, for east-west
- North-South bound traffic is between leaf and spine nodes, for the topology north bound is attached with the spine nodes
- Basically some ECMP load sharing from leaf to spine nodes
- Rich mesh of spine-leaf topology generates LSP flooding issues

TLV in Hello



- SL Flag, with L, R and B bits
- Default Route Metric pushes from Spine to Leaf node

IS-IS Spine-Leaf Extension



Extension Operation

- Point-to-point IS-IS link
- Spine nodes have interconnections, include the ‘Core’ layer on top of ‘Aggregation’ layer
- CSNP is not needed over the SL link
- Allow Leaf-to-leaf local exchange
- Leaf set ‘OL’ bit in its LSP
- Spine may pass ‘Hostname’ in IIH
- Spine may set different ‘Default Route Metric’ to influence the leaf’s ECMP