is-is support for openfabric

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Components

- distributed control plane
  reachability topology
- controller based overlay
  policy
Distributed Protocol Goal

• Build the *simplest possible* distributed link state protocol

• *No policy*
  ‣ Just carry reachability and topology

• *No configuration*
  ‣ All configuration possible is “ephemeral”

• *No “extra stuff”*
  ‣ Feature creep is a *real* problem at scale
Loose Feature Set

• There has been some concern expressed about the loose set of “MAY remove” features

• This is something we would like feedback on
  ▷ Should the list be split into “MAY” and “MUST” remove with an eye to interoperability?
Fabric Location

- hop count == spf with all metrics set to 1
- $x = \text{max hop count}$
- $y = \text{max path from someone max path away}$
- location == $y - x$
Fabric Location

- does not work in >3 stage fabrics, but these can be manually configured
- Advertised in tier TLV from shen-isis-spine-leaf-ext
Forward Optimization

- A1 runs SPF
- C1-4, A2-4 are two hop neighbors
- B1 chosen as flooder
- Flooded to B1 in normal LSP
- Flooded to others in link local LSP (RFC7356)
Reverse Optimization

- do not flood to any neighbor on *any* shortest path towards the originator
Other Optimizations

• Remove lots of stuff we don’t need/don’t care about from IS-IS
• Some optimized neighbor formation “stuff”
Next Steps

• ???