Goals

• 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
Changes Since the Last Draft

- Many minor changes
- The one major change is the way fabric location is calculated
  - Many different algorithms are possible
  - Most only work in one topology, however
  - The current algorithm works in every spine and leaf topology we can think of
Fabric Location

- Calculate hop count to farthest marked T0
- Calculate hop count from farthest T0 to another farthest T0
- location == difference between these two
- 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”
Current State

• Implementation in Free Range Routing is in progress
  • In “acceptance test” phase
  • Will report on list if/when this becomes generally available

• Testing includes
  • Functional
  • Scale
Next Steps

• Need
  • Use case draft and/or use case appendix in current draft
  • YANG model modifications
  • Other implementations

• Would like to see this accepted as experimental WG item