

Efficient Remote Protection

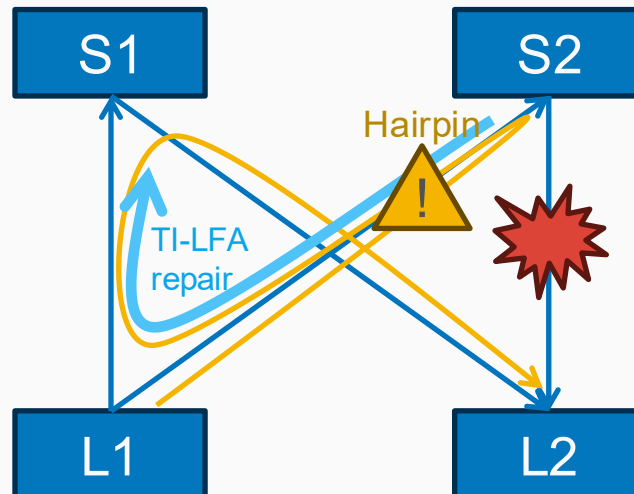
draft-clad-rtgwg-efficient-remote-protection

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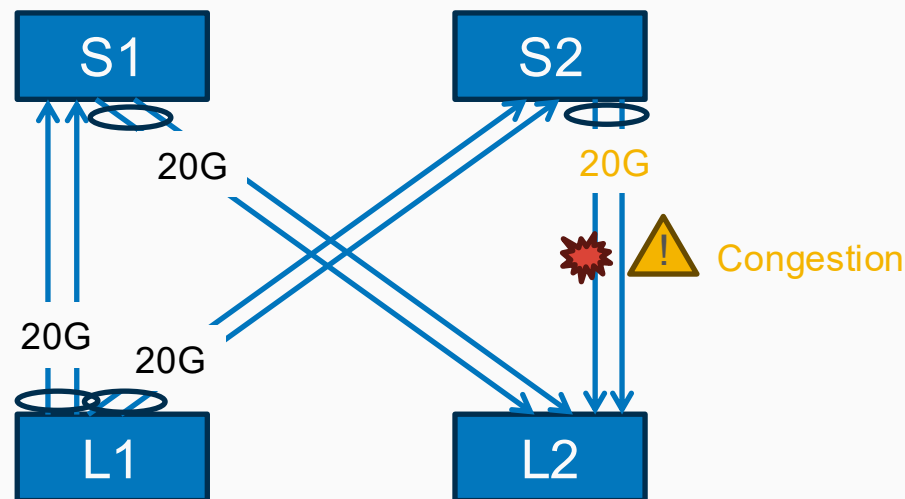
IP Fast Reroute Limitations (1)

- Local only protection
 - ECMP or LFA are not always available
 - R-LFA or TI-LFA can hairpin traffic



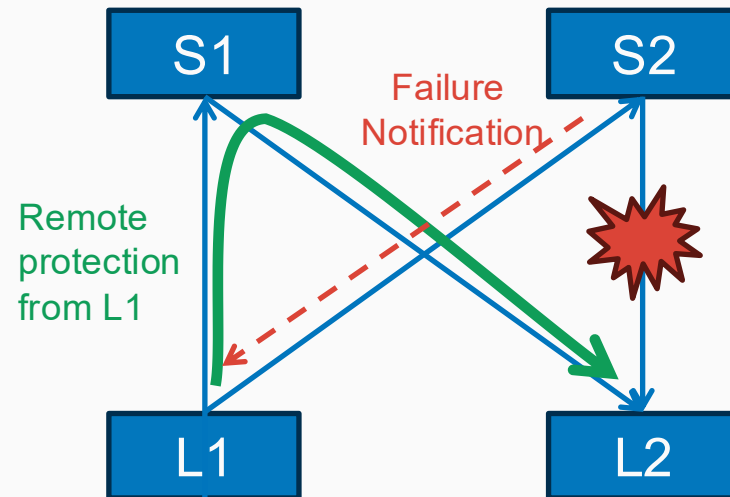
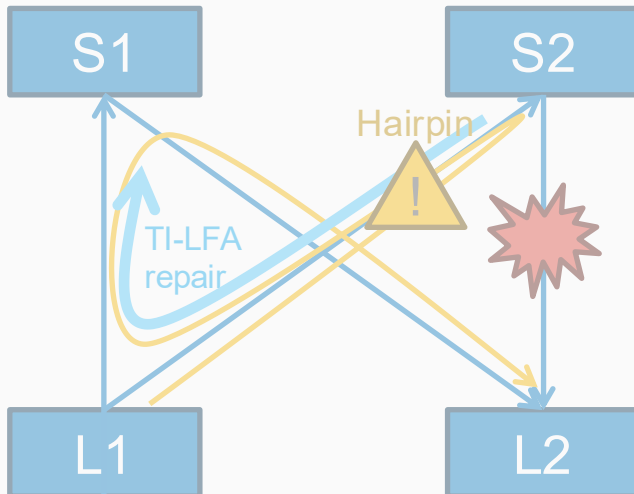
IP Fast Reroute Limitations (1)

- No load / quality awareness
 - FRR mechanisms only react to complete failures
 - Partial failures or link quality degradation can lead to congestion



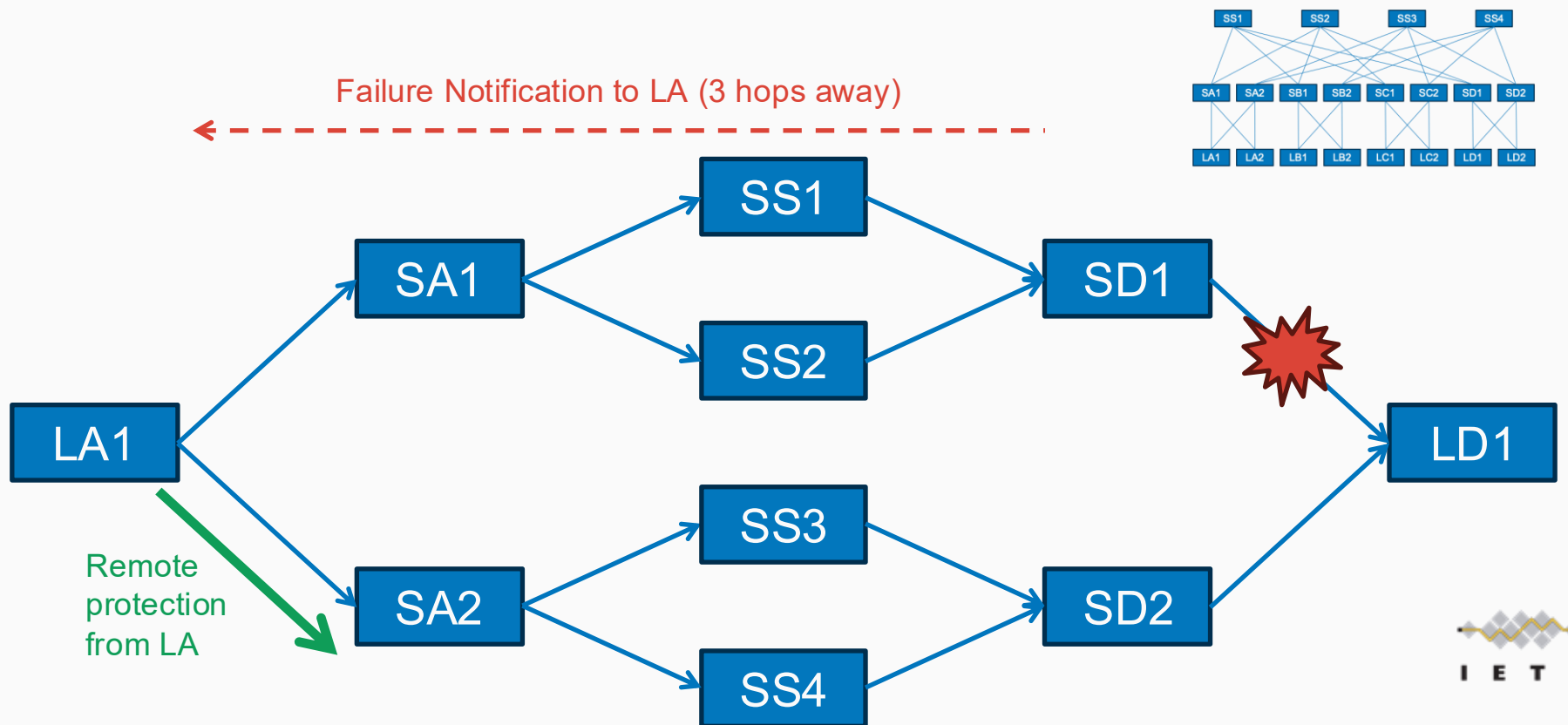
Efficient Remote Protection

- Node L1 installs a backup path for the failure of **remote** link S2-L2
- Node L1 activates this backup upon receiving a network notification from S2



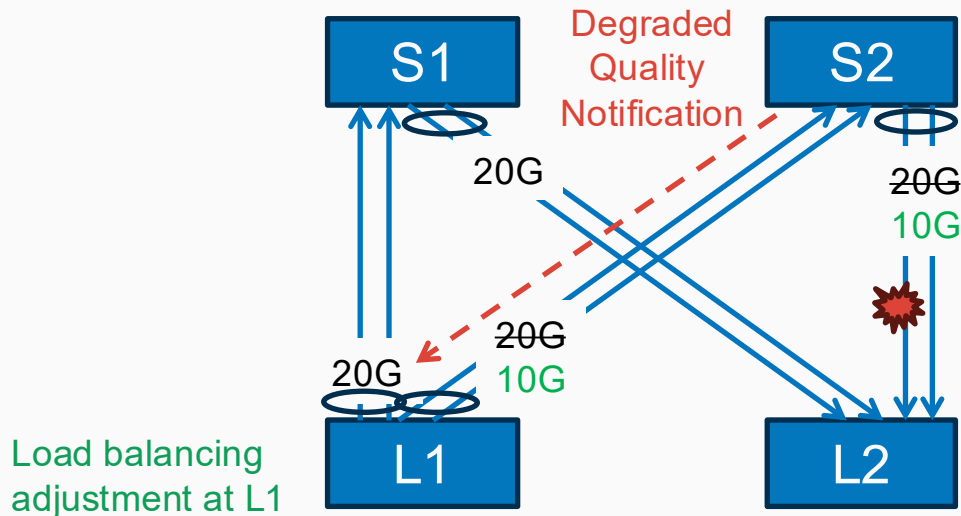
Multiple Hops Away

- Remote protection can be multiple hops away!
- Example: Spine-Leaf link failure in 3-tier folded Clos



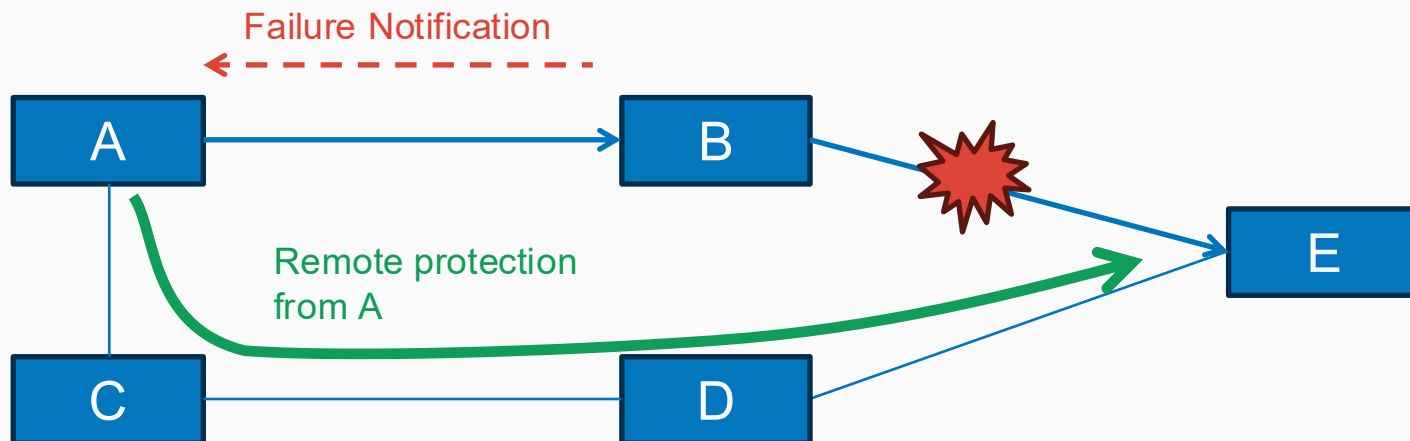
Quality Awareness

- Node L1 receives a notification of degraded quality for **remote** link bundle S2-L2
- Node L1 adjusts its local load balancing



Generic Solution

- Applicable to any topology



Next Steps

- Seek feedback from the working group