BGP Next-next Hop Nodes

draft-wang-idr-next-next-hop-nodes

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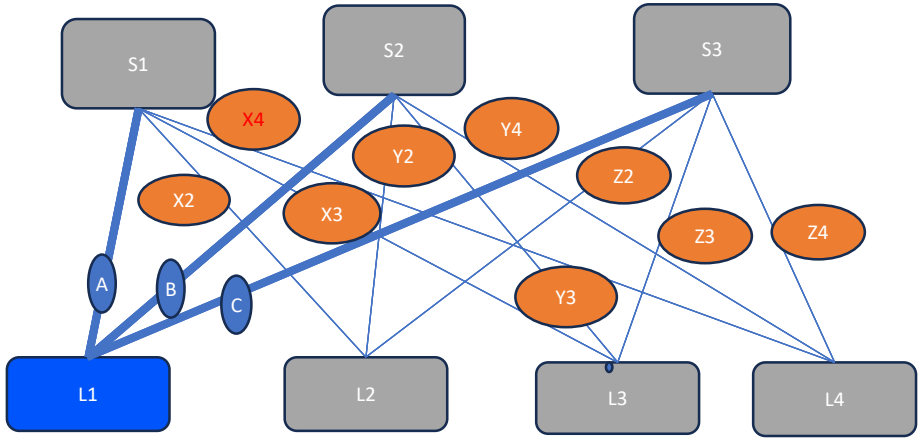
Problem Statement



Routes on T1		
Destination	**Next-hop**	**Next-next-hop**
L2	A	X2
	B	Y2
	C	Z2
L3	A	X3
	B	Y3
	C	Z3
L4	A	X4
	B	Y4
	C	Z4

- Traditional BGP routing signals the next-hops of routes.
- In certain scenarios, such as CLOS network global load balancing, we would like to know the next-next-hop as well.
  - When the next-next-hop link X4 is congested, L1 needs to shift some traffic (towards L4) from link A to B and C to mitigate the congestion.
- We will define a new capability TLV in “BGP Next Hop Dependent Capabilities Attribute” to signal the next-next hop nodes together with the next-hop

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BGP Next Hop Dependent Capability Attribute (NHC)

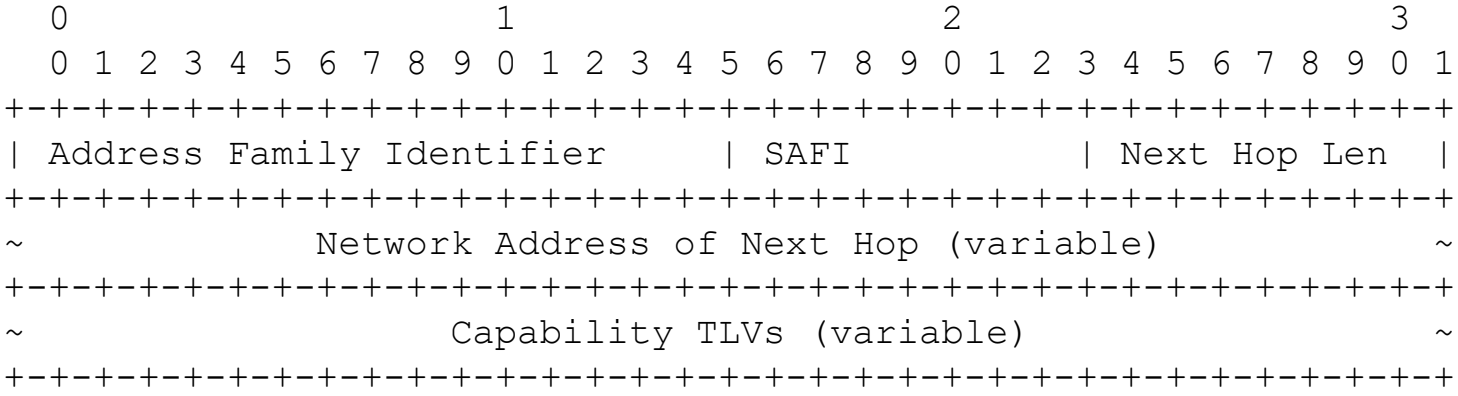

Figure 1: NHC Format

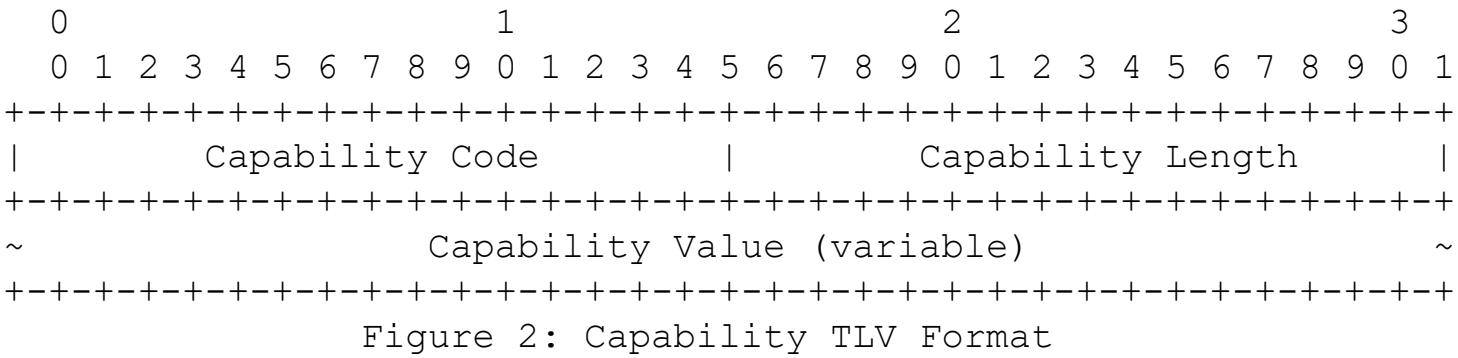

Figure 2: Capability TLV Format

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BGP Next-next Hop Nodes (NNHN)

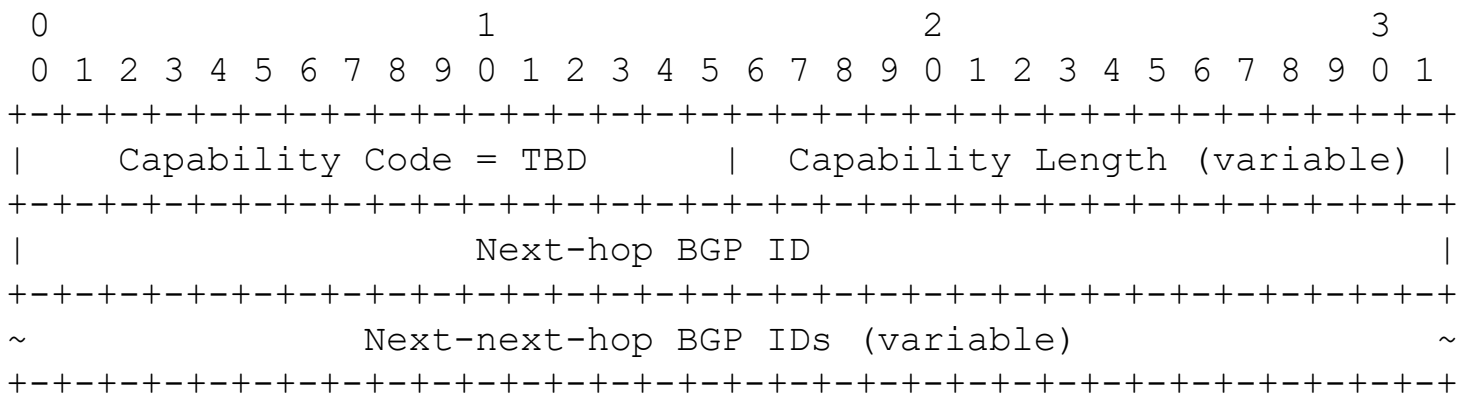

Figure 3: NNHN Capability TLV Format

- Define a new capability TLV in NHC attribute to signal NNHN together with next-hop.

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Next Steps

- Feedback and comments are welcome.
- Looking for additional collaborators.

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