

Distribution of TRILL Link-State using BGP

draft-hao-idr-ls-trill-01

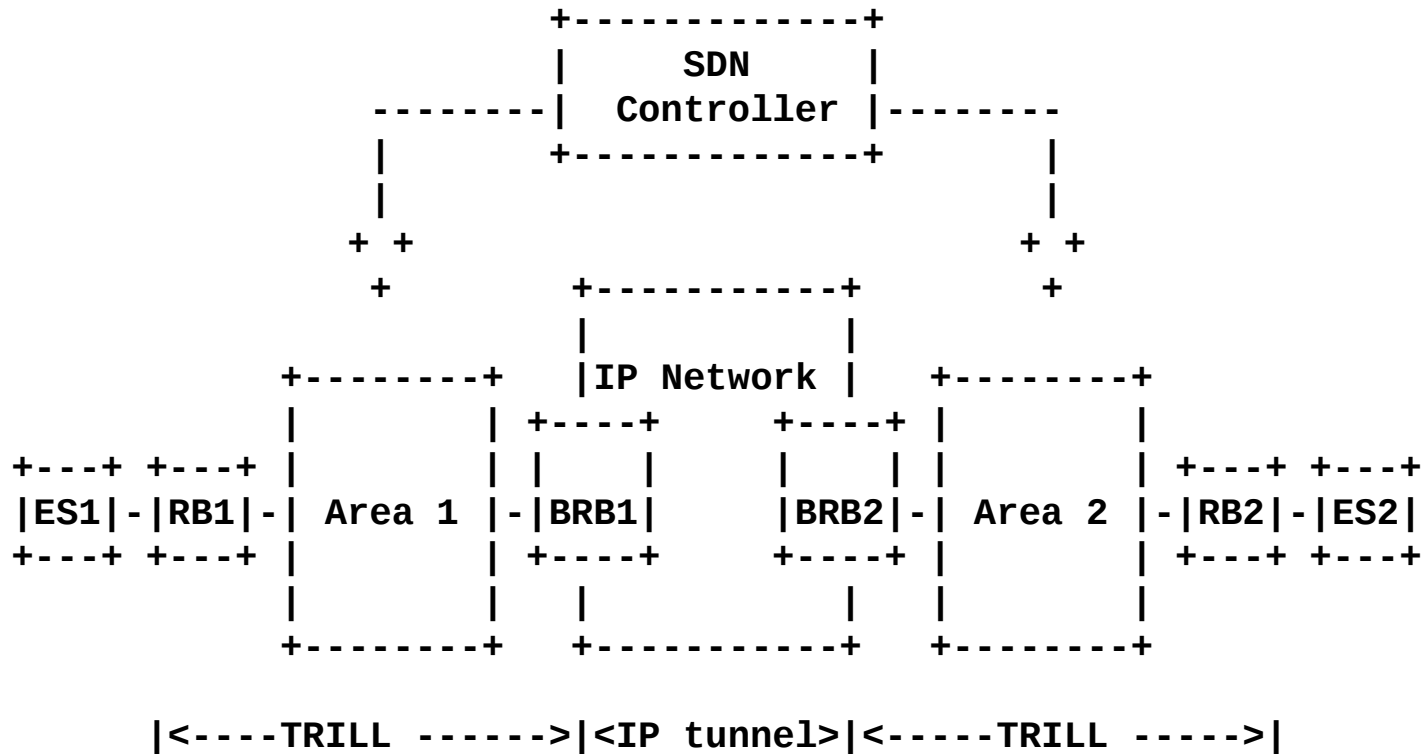
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Motivation



1. End-to-end topology visibility on the SDN controller
2. MAC address reachability information synchronization across multiple TRILL domains

Extension of BGP Link state is proposed to support TRILL link-state and MAC address reachability information distribution.

New Protocol-ID for TRILL

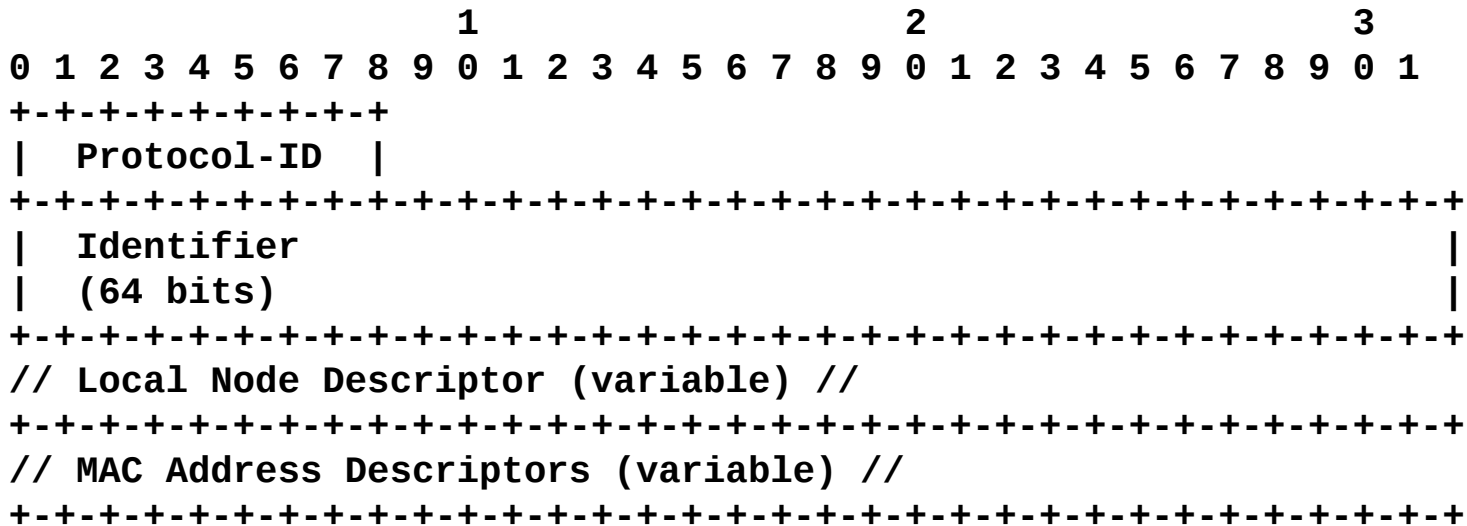
To differentiate the TRILL protocol from layer 3 IGP protocol, a new TRILL Protocol-ID is defined.

Protocol-ID	NLRI information source protocol
1	IS-IS Level 1
2	IS-IS Level 2
3	OSPFv2
4	Direct
5	Static configuration
6	OSPFv3
TBD	TRILL

New NLRI Type: MAC Reachability NLRI

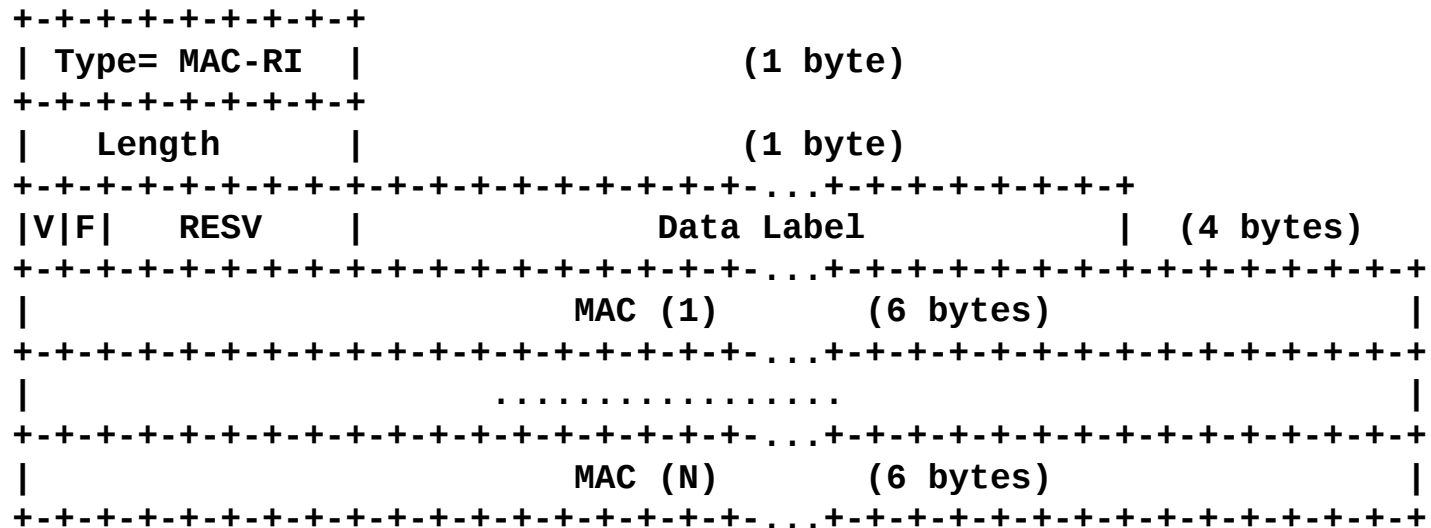
Network Level Reachability Information

Type	NLRI Type
1	Node NLRI
2	Link NLRI
3	IPv4 Topology Prefix NLRI
4	IPv6 Topology Prefix NLRI
TBD	MAC Reachability NLRI



The MAC Reachability NLRI format

MAC Address Descriptors



MAC-Reachability TLV format

V: VLAN

F: Fine Grained Label

Opaque Node Attribute TLV

The Opaque Node Attribute TLV could be used as the envelope to transparently carry TRILL specific information.

Descriptions	IS-IS TLV/Sub-TLV	

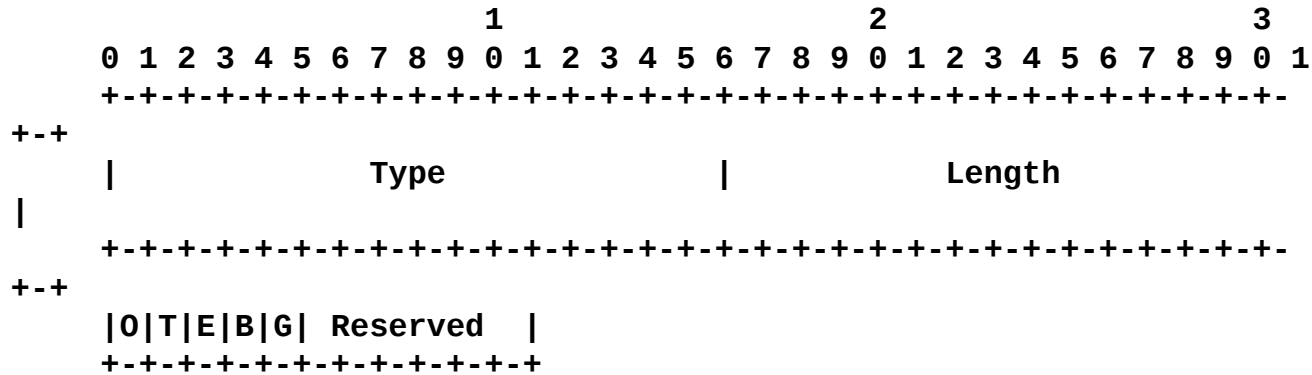
TRILL-VER	22/13	Router Capability
NICKNAME	22/6	MT-Capability
TREES	22/7	Group Address (GADDR)
TREE-RT-IDs	22/8	TLV
TREE-USE-IDs	22/9	
INT-VLAN	22/10	
VLAN-GROUP	22/14	
INT-LABEL	22/15	
RBCHANNELS	22/16	
AFFINITY	22/17	
LABEL-GROUP	22/18	
GMAC-ADDR	142/1	
GIP-ADDR	142/2	
GIPV6-ADDR	142/3	
GLMAC-ADDR	142/4	
GLIP-ADDR	142/5	
GLIPV6-ADDR	142/6	
TRILL TLVs/Sub-TLVs		

Link Attribute TLVs

TLV Code Point	Description	IS-IS TLV /Sub-TLV	Defined in:
TBD	Link MTU	22/28	[RFC7176]/2.4

Link Attribute TLVs

Node Attribute TLVs: Node Flag Bits TLV



Node Flag Bits TLV format (draft-ietf-idr-ls-distribution)

New bit is defined as follows:

Bit	Description	Reference
'G'	Layer 3 Gateway Bit	draft-ietf-idr-ls-trill
Reserved	Reserved for future use	

Next Step

- Seek some comments and feedbacks
- WG adoption?