

Directory Assisted RBridge Edge

draft-dunbar-trill-directory-assisted-edge-05

Update

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Major changes since

draft-dunbar-trill-directory-assisted-edge-04 (IETF82)

- Addressed comments from mailing list and discussions from 82nd IETF
- Make the draft focusing on the benefits and generic operation of directory services
 - Minimum attributes in directory servers
 - Pull model
 - Push model
- Removed technical details like how RBridge intercept ARP/ND requests and forward them to directory servers
 - Push model: Need separate draft(s) on detailed mechanism for directory to push down initial full mapping and subsequent updates
 - Pull model: Need separate draft(s) on detailed messaging exchange between Directory Servers and RBridge.
- Goal: WG adopt the Directory Assisted TRILL edge concept

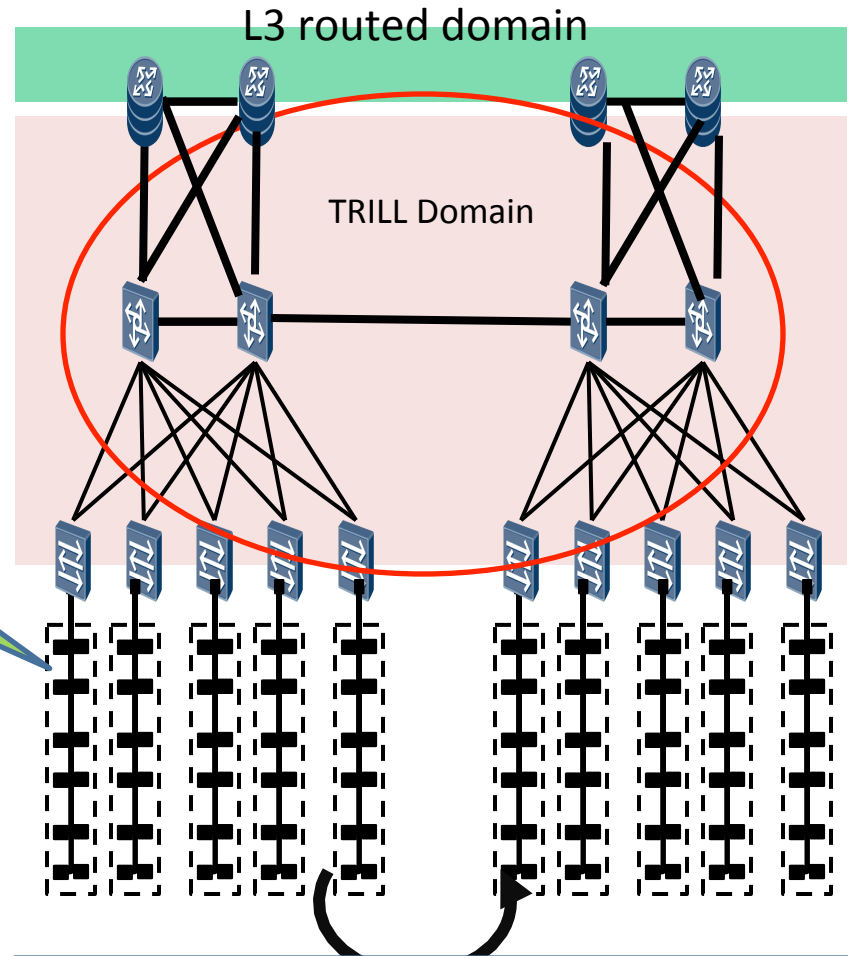
TRILL in Data Center

Server can be loaded with applications under any subnets

Minimal IP re-config needed

Why different?

- Rapid work load shifting
 - Reduce or increase the number of racks when demand changes.
 - Allow servers to be re-loaded with different applications under different subnets without any physical moving or IP re-configuration.



VMs can be moved to any rack without IP re-configuration on any switches

Benefit of using directory in Data Center

- Avoid flooding unknown DA across RBridge domain.
- Avoid designating one port as AF port:
 - directory assisted RBridge edge doesn't need to flood unknown DA data frames across RBridge domain
- Reduce flooding decapsulated Ethernet frames with unknown MAC-DA to a bridged LAN connected to RBridge edge ports.
- Reduce the amount of MAC&VLAN <-> RBridgeEdge mapping maintained by RBridge edge.
 - No need for an RBridge edge to keep the MAC entries for hosts which don't communicate with hosts attached to the RBridge edge.

Push vs. Pull models

- **Push Model**

Nickname	VID-1	MAC1/IP, MAC2/IP, MAC/IP ...MACn/IP
	VID-2	MAC1/IP, MAC2/IP, MAC/IP ...MACn/IP
	MAC1/IP, MAC2/IP, MAC/IP ...MACn/IP

- Pros: less processing
- Cons: more entries than they really need

- **Pull Model**

- pulls the MAC&VLAN<->RBridgeEdge mapping entry from the directory server when needed.
- Pros : smaller set because entries age out after awhile
- Cons: more processing

Next Step

- **Move to WG draft**