

Directory Assisted TRILL
Encapsulation by non-TRILL nodes
(Directory Reliant Smart End Node)

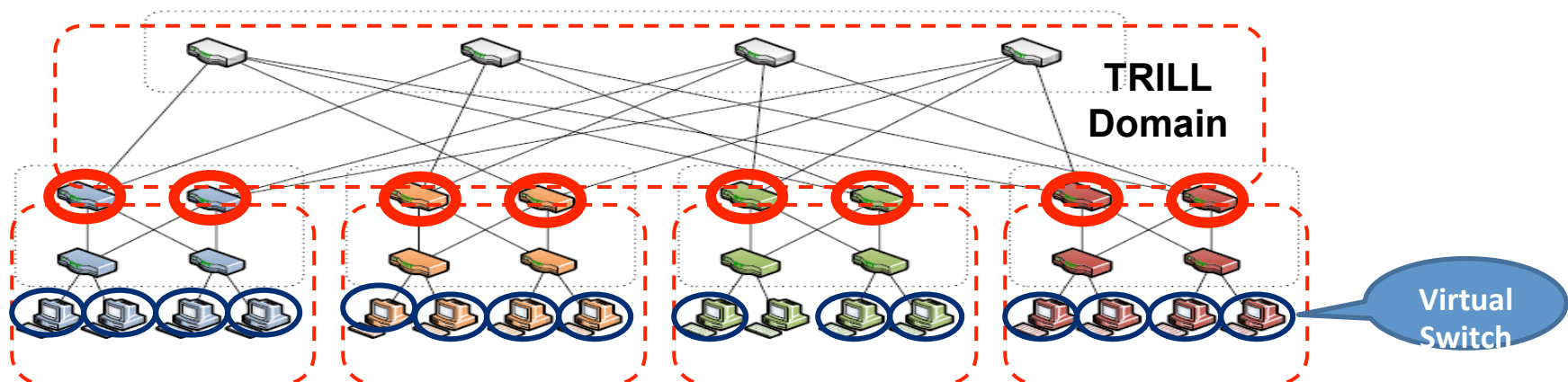
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History

- 2011: stripped from “[draft-dunbar-trill-directory-assisted-edge](#)”
- March 2013:
 - revised to reflect progress made by “draft-ietf-trill-directory-framework” and “draft-dunbar-trill-scheme-for-directory-assist”
- July 2013:
 - Emphasized the benefits of pre-encapsulation
 - Described why/how pre-encapsulation can limit MAC Address table size as VLANs getting more fragmented.

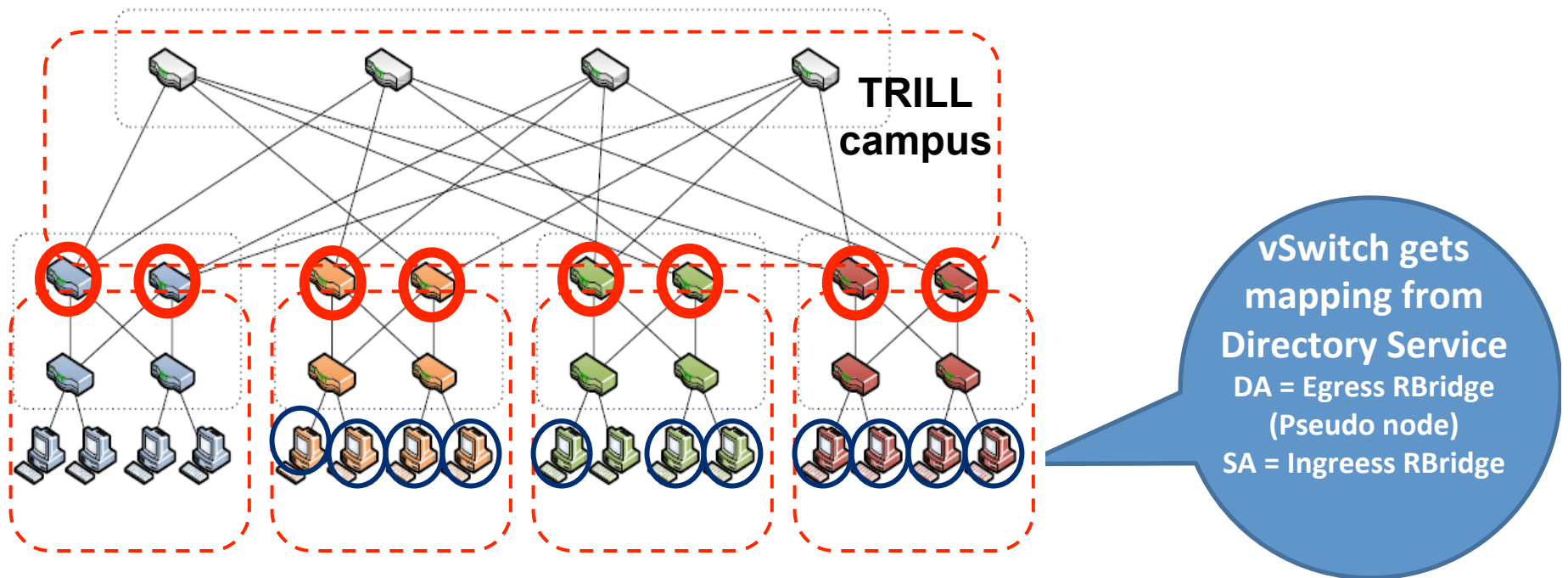
Key Benefits

- **Reduce MAC learning table size for Rbridge Edges and switches on Bridged LANs**
 - Local switches don't need to learn MAC addresses of hosts in remote domains.
- **Better load spreading (Ingress ports) because the VM/hypervisor can send pre-encapsulated data frames to any edge Rbridges (avoid Appointed Forwarder)**
- **Avoid Nickname Exhaustion issue in Data Centers with very large number of VMs and servers.**



Detailed Mechanism

- All hosts under RBridge use RBridge's nickname
- Ingress RBridge: forward TRILL encapsulated frames to TRILL campus. Native Ethernet frames stay locally (or pull directory for unknown DA)
- Egress RBridge: normal processing



Local Decision



- Directory:
 - End node attached to {R1, R2, R3, R4}

Benefits

- Local switches don't need to keep remote hosts MAC addresses in their FDB.
- Allow all ports to forward TRILL frames (i.e. no need to designate one port as AF port)
- Simplified processing on Ingress RBridge
 - Utilize directory service on virtual switches
- No change to edge RBridge processing

Next Step

- Request for WG adoption