TRILL Datacenter Interconnect

Sam K. Aldrin
Tissa Senevirathne
Ayan Banarjee
Santiago Alvarez
What is it?

• Ability to interconnect TRILL sites
  – TRILL datacenters
  – TRILL Campus networks

• Ability to leverage existing protocols
  – Extending existing protocols
  – Minimize extensions to absolute requirements
  – Work with wide range of protocols
Problem!!

- No clear and solid mechanism to interconnect TRILL network sites, yet.
- MAC learning across TRILL sites brings in additional layer of complexity
- Nickname conflict resolution is not formalized
- Scalability and mobility issues increases proportionally with size of the TRILL network
Solution Requirements

• Ability to stretch or shrink the size of TRILL network by interconnecting different sites
• Minimum enhancements and modifications to existing protocol definitions and no changes to TRILL header
• Ability to interconnect over Layer2 and Layer3 Transport without any TRILL dependency
• Dynamic establishment of network/tunnel between sites
• Secure data transport across public network
• No data duplication and unnecessary traffic generation
• Easier to adopt future TRILL extensions
Solution Details

- Layer2 or Layer3 transport
- No TRILL awareness required from transport infrastructure
- Campus to campus dynamic tunnel establishment
- Dynamic exchange of Edge Rbridge reachability
- Rbridges nickname uniqueness resolution
- Default route advertisement into the TRILL campus
Solution – contd.

• Dynamic creation of tunnels from site to site
  – GRE
  – IPSEC Tunnels
  – MPLS LSP’s

• No requirement for Tunnel establishment when E-LAN service is used.

• Service aware intelligence at the Edge Rbridges

• Ability to incorporate new TRILL extensions, without changing interconnection model

• Seamless support for unicast and multicast traffic
Questions?