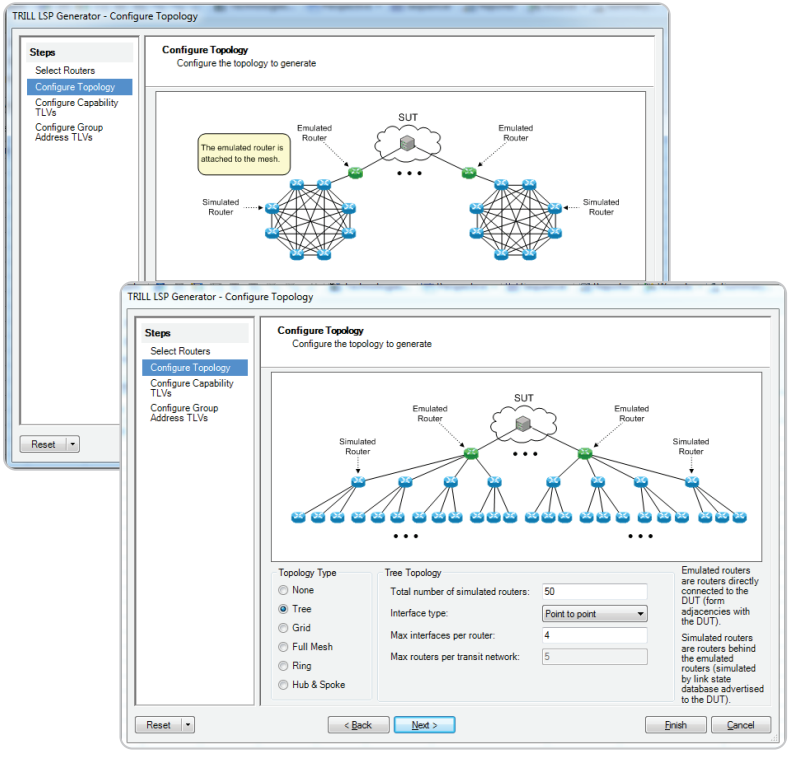
TestCenter™

TRILL Emulation

Transparent Interconnect for Lots of Links (TRILL) combines traditional Layer 2 and Layer 3 networking boundaries by applying link state routing to VLAN-aware bridges that result in increased efficiency and performance in large scale data center deployments. It enables large clouds of physical and virtual machines to be treated as a single IP subnet, which eliminates the need for manual reconfiguration when nodes move within the cloud.

VIAVI's TRILL emulation package validates the implementation of TRILL RBridge regarding Ingress/ Egress or Transit functions, IS-IS exchange information, multicast tree pruning, load balancing, and topology changes. It allows you to emulate large networks by generating thousands of TRILL LSPs and complex network maps. TRILL emulation package can verify that paths can be added / removed and traffic can be isolated to specified paths or VLANs through the TRILL network.



Features

- Establish adjacency and exchange link state information with other RBridges
- Measure data plane latency introduced at each TRILL RBridge
- Generate up to 10,000 Link-State Packets per device to emulate large-scale networks
- Generate wire speed traffic over converged TRILL topology
- Forward Ethernet traffic including RFC2544 benchmarking, FCoE, unicast/multicast

Benefits

- Verify functional behavior of TRILL RBridges end-to-end connectivity
- Validate hybrid network configurations of TRILL and non-TRILL bridges
- Test availability of multiple TRILL paths simultaneously for load balancing, multi-homed traffic, and failover scenarios

Technical Specifications

- RFC 6325 - Routing Bridges (RBridges): Base Protocol Specification
- RFC 6326 - Transparent Interconnection of Lots of Links (TRILL) Use of IS-IS
- RFC 6327 - Routing Bridges (RBridges): Adjacency Updates
- RBridge emulation
- L2 IS-IS multicast and P2P Hellos, LSP (TRILL IS-IS)
- Multi-VLAN support on each device block
- Designated RBridge election
- RBridge nickname collision resolution
- Appointed Forwarder designation
- Bypass pseudonode
- MD5 authentication
- Pruning Multicast forwarding trees based on VLANs
- Address learning/aging
- Campus-wide MTU test
- IS-IS TLVs
  - IIH TLVs – MT Port Capability TLV
  - Enable VLAN Sub TLV
  - Appointed Forwarder Sub TLV
- IS-IS LSP TLVs
  - Neighbor TLV
  - Capability TLV
    - NICKNAME Sub TLV
    - TREES Sub TLV
    - TREE-RT-IDs Sub TLV
    - TREE-USE-IDs Sub TLV
    - INT-VLAN Sub TLV
    - TRILL-VER Sub TLV
    - VLAN-GROUP Sub TLV
- Group Address
  - GADDR Group MAC Address sub-TLV (GMAC-ADDR)
- Easy to use wizard to generate large topologies for scale testing
- Comprehensive results for analysis
  - RBridge Election State
  - TRILL neighbor results
  - Data plane results

Supported Platforms

Supported on current TestCenter platforms

Ordering Information

Product Number	Description
BPK-1187A	TRILL Emulation
Related	
BPK-1311A	EVPN Emulation
BPK-1081A	FCoE/DCBX Emulation
BPK-1181A	LISP Emulation
BPK-1193A	OpenFlow Controller Emulation
BPK-1195A	OpenFlow Switch Emulation
BPK-1182A	SPB Emulation
BPK-1310A	VXLAN Emulation

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