

Spirent 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.

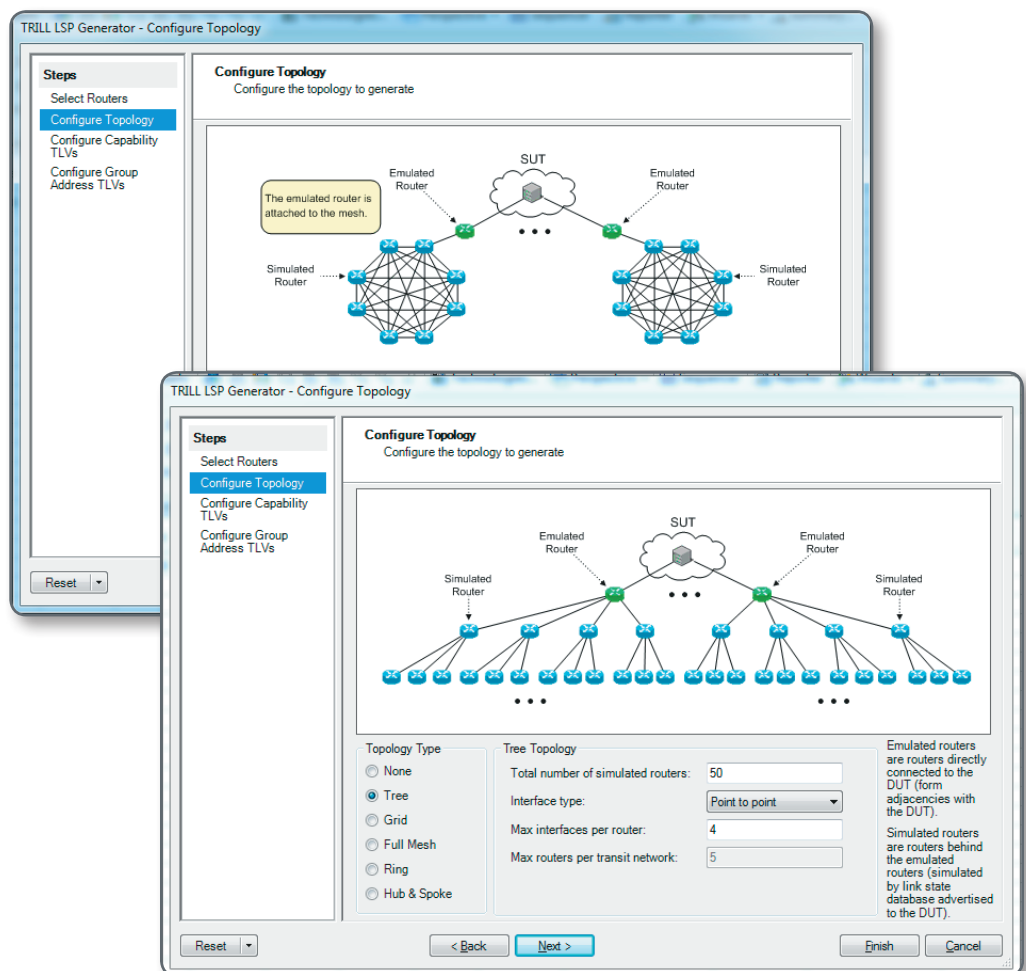
Features

- 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

Spirent'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.



TRILL Emulation highlights

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 modules & platforms

- Supported on the Spirent MX, MX2, FX, FX2, DX and DX2 Family modules
- Supported on Spirent TestCenter Virtual
- Supported on Spirent TestCenter C1 and C50
- Supported on all Hypermetrix Modules

Requirements

- Spirent TestCenter with Packet Generator and Base Package
- Standard Spirent TestCenter with Traffic Generator and Analyzer

Ordering information

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| ■ TRILL Emulation | BPK-1187A |
| ■ Virtual TRILL Base Package 1-port | V-BPK-1187A-1 |
| ■ Virtual TRILL Base Package 4-ports | V-BPK-1187A-4 |
| ■ Virtual TRILL Base Package 8-ports | V-BPK-1187A-8 |
| ■ Virtual TRILL Base Package 16-ports | V-BPK-1187A-16 |
| ■ Virtual TRILL Base Package 32-ports | V-BPK-1187A-32 |
| ■ Virtual TRILL Base Package 64-ports | V-BPK-1187A-64 |
| ■ Virtual TRILL Base Package 128-ports | V-BPK-1187A-128 |

spirent.com

AMERICAS 1-800-SPIRENT
+1-818-676-2683 | sales@spirent.com

EUROPE AND THE MIDDLE EAST
+44 (0) 1293 767979 | emeainfo@spirent.com

ASIA AND THE PACIFIC
+86-10-8518-2539 | salesasia@spirent.com