

Spirent TestCenter™

LISP Emulation

Locator/Identifier Separation Protocol (LISP) disassociates two elements, the routing locator and the identifier that have traditionally been incorporated into one number space: the IP address. LISP uses a network-based map-and-encapsulate scheme (RFC 1955) to separate the identity and location functions. An identifier and a locator can be an IP address or an arbitrary element such as a set of GPS coordinates or a MAC address.

Features

- Supported on all Spirent TestCenter modules. Spirent TestCenter device's roles can be both ETR and IGR, or either
- Setting up LISP site(s) is as easy as setting up a network block
- Run traffic and control plane; Bound Stream Blocks makes testing simple
- Real-time changes with Spirent TestCenter; Dynamic change exercises LISP in DUT
- Multiple block support
- Management and change of prefix length, address increment, negative mapping request will be dropped, etc.
- Static locator configurations
- Both IPv4 and IPv6 locator address family supported

Spirent's LISP emulation allows you to create complex tests to validate LISP implementations by simplifying multihomed routing and supporting datacenter virtual machine mobility.

Applications of Spirent's LISP emulation testing tools includes:

- Testing Converged Fabrics – test end to end FCoE to FC performance emulating virtual machine initiators on Ethernet and storage array targets on native Fibre Channel test ports
- Testing High Speed Ethernet FCoE Fibre Channel Forwarder (FCF) switches – test Enode and VN_port control plane scale and combined LAN/SAN queueupt
- Testing FIP Snooping and N-Port Virtualization (NPV) bridge switches – test top of rack switch FCoE pass-through capabilities by emulating server VN_ports as well as fabric FCF VF ports

The screenshot displays the Spirent TestCenter interface for LISP configuration and monitoring. The top window shows the configuration of LISP sites and pairs. The bottom window shows the 'Traffic Aggregate View Results' and 'Port Traffic and Counters' tables.

Traffic Aggregate View Results 1

Port Name	Total Tx Count (Frames)	Total Rx Count (Frames)	Total Tx Count (bits)	Total Rx Count (bits)	Total Tx Rate (bps)	Total Rx Rate (bps)	Tx L1 Count (bits)	Rx L1 Count (bits)
Port //2/9	2,385,477	4	2,446,824,656	3,712	86,486,160	0	2,828,140,976	4,352
Port //2/11	4	2,386,577	3,712	2,423,375,056	0	86,486,448	4,352	2,802,027,376

Streams > Detailed Stream Results

Name/ID	Rx Port Names	Aggregated Rx Port Count	Tx Count (Frames)	Rx Count (Frames)	Tx Rate (bps)	Rx Rate (bps)	Tx Count (bits)	Rx Count (bits)	Tx L1 Count (bits)	Rx L1 Count (bits)
StreamBlock...	Port //2/11	1	2,389,507	2,453,407	86,486,528	86,486,592	2,446,895,168	2,512,284,672	2,828,176,288	2,804

Routing and MPLS > LISP Results

Port Name	Device Name	Device State	Tx Map Request Count	Tx Map Reply Count	Tx Negative Map Reply Count	Tx Map Register Count	Rx Map Request Count	Rx Map Reply Count	Rx Negative Map Reply Count
Port //2/9	IGR	Up	1	1	0	1	0	1	0
Port //2/11	ETR	Up	0	1	0	1	0	0	0

Technical specifications

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| LISP Emulation | <ul style="list-style-type: none"> ▪ Full Link Layer Discovery Protocol (LLDP) emulation ▪ Auto-negotiation of 802.1Qbb Priority Flow Control (PFC) and 802.1Qaz Enhanced Transmission Selection (ETS) ▪ LLDP & DCBX port summary results with exchanged priority map ▪ Detailed DCBX feature results with 25+ metrics including PFC, FCoE Priority and Bandwidth allocation ▪ 20+ LLDP and DCBX TLVs with default or configurable parameters ▪ Customizable TLVs ▪ Push or pull link configuration options thru DCBX TLV willingness settings ▪ Bring logical link up and down ▪ Automatic start and stop with FCoE emulation ▪ Configurable Tx interval, multiplier and delays |
| Supported platforms | <ul style="list-style-type: none"> ▪ 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 |

Ordering information

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

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