

Spirent Communications

Spirent TestCenter Software and Hardware New Features 5.07

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New Products and Features

Software Features

VXLAN EVPN Overlay Wizard Enhancements

In Spirent TestCenter Release 5.07, new options are introduced in the VXLAN EVPN Overlay wizard, so users can easily create complex configuration. Prior to this release, these options were edited manually after creating a configuration from the wizard.

- Users can configure names for VTEPs to easily differentiate the VTEPs in separate ports.

	Enable	Port Name	Device Name	Router ID	Router ID Step	Tunnel IP Mode	VTEP IP Address
	<input checked="" type="checkbox"/>	Port //1/1 (o...	VTEP-Spine1	10.1.1.1	0.0.0.1	Interface IP	192.168.100.2
▶	<input checked="" type="checkbox"/>	Port //1/5 (o...	VTEP-Spine2	11.1.1.1	0.0.0.1	Interface IP	192.168.101.2

- Users can differentiate L2-VM and L3-VM devices under the same VTEP after generating a configuration from the wizard.

	Port Name	Device Name	Tags	Device Count	Active VTEP Device
	Port //1/...	VTEP-Spine1 Device 30466	Click to ad...	1	<input checked="" type="checkbox"/>
	Port //1/...	L2 VM Device 30468	Click to ad...	1	<input type="checkbox"/>
	Port //1/...	L3 VM Device 30470	Click to ad...	1	<input type="checkbox"/>
▶	Port //1/...	IP Prefix Device 30472	Click to ad...	1	<input type="checkbox"/>

- Users can select Enable Traffic Scale Mode (EVPN) and Enable Type 5 Overlay Index when configuring EVPN route parameters.

Global Options

Enable Traffic Scale Mode Enable Type 5 Overlay Index

- Users can enable Type 5 Prefix Match from the IP Prefix route and Host side configuration.

Configure IP Prefix Route Params

IP Prefix Params

IP Prefix Mode: IPv4 VNI Type: L3-VNI

Number of Prefixes per Segment: 1 Enable Prefix Match

	MAC Address Step	MAC Address Step Per Segment Block	Enable VLAN	VLAN Id	VLAN Id Step	Override Attached VTEP IP	Enable Type-5 Prefix Match
	00:00:00:00:01	00:00:00:00:01:00	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
▶	00:00:00:00:01	00:00:00:00:01:00	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>

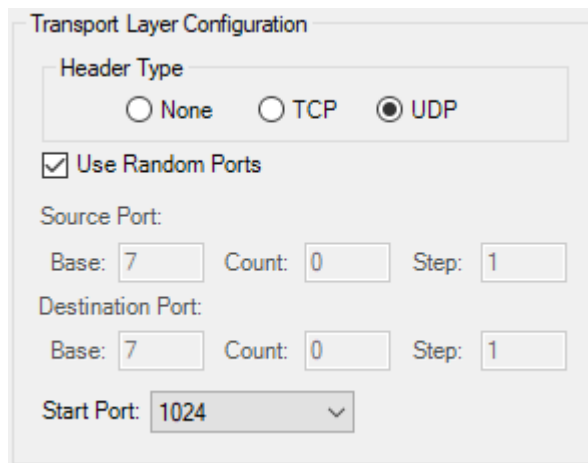
- Users can override VTEP (DUT) IP attached to the hosts.

C Address Step	MAC Address Step Per Segment Block	Enable VLAN	VLAN Id	VLAN Id Step	Override Attached VTEP IP	Attached VTEP IP Address
00:00:00:00:01	00:00:00:00:01:00	<input type="checkbox"/>			<input type="checkbox"/>	
▶ 00:00:00:00:01	00:00:00:00:01:00	<input type="checkbox"/>			<input checked="" type="checkbox"/>	192.85.103.1

RFC 3918 UDP port option

In Spirent TestCenter Release 5.07, the RFC 3918 benchmarking wizard now supports the option to generate UDP traffic that only covers random port numbers in the 1024 to 65535 range.

Use the RFC 3918 Wizard to define the test as usual. Select Use Random Ports for UDP traffic and select 1024 from the Start Port drop-down list.



Transport Layer Configuration

Header Type

None TCP UDP

Use Random Ports

Source Port:

Base: Count: Step:

Destination Port:

Base: Count: Step:

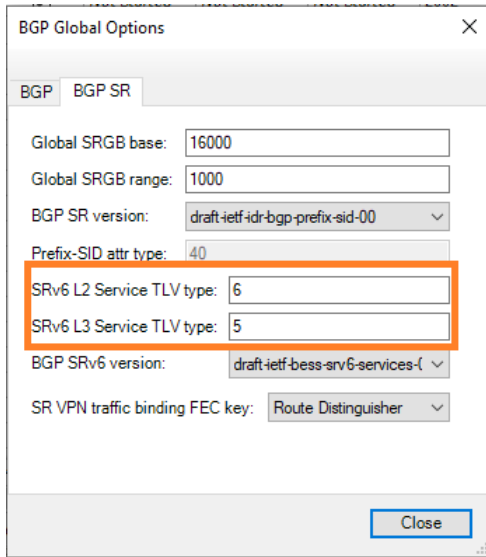
Start Port: ▼

SRv6 Based Global IPv4/IPv6 Internet, IPv4/IPv6 L3VPN and EVPN BGP Services Emulation

Spirent TestCenter release 5.07 added support for SRv6 based global IPv4/IPv6 Internet, IPv4/IPv6 L3VPN and EVPN services emulation based on the new IETF draft <https://tools.ietf.org/html/draft-ietf-bess-srv6-services-01>. Encoding/decoding for BGP route SRv6 service TLV, Sub-TLVs, and Sub-Sub-TLVs are all updated to this new draft.

Note: This new IETF draft replaced an older draft <https://tools.ietf.org/html/draft-dawra-idr-srv6-vpn-04>. The new draft is not backward compatible. BGP route packing is not supported.

With this feature, you can configure the values for SRv6 L2/L3 service types in the “BGP Global Options” editor.



BGP Global Options

BGP BGP SR

Global SRGB base: 16000

Global SRGB range: 1000

BGP SR version: draft-ietf-idr-bgp-prefix-sid-00

Prefix-SID attr type: 40

SRv6 L2 Service TLV type: 6

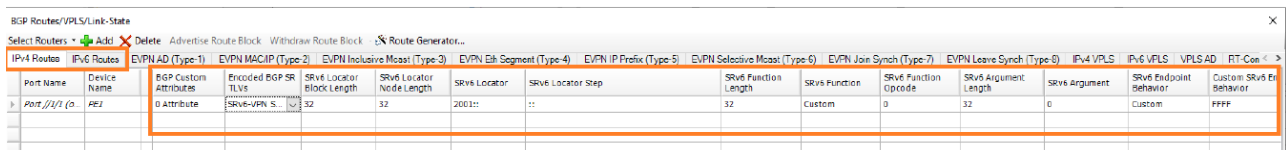
SRv6 L3 Service TLV type: 5

BGP SRv6 version: draft-ietf-bess-srv6-services-l

SR VPN traffic binding FEC key: Route Distinguisher

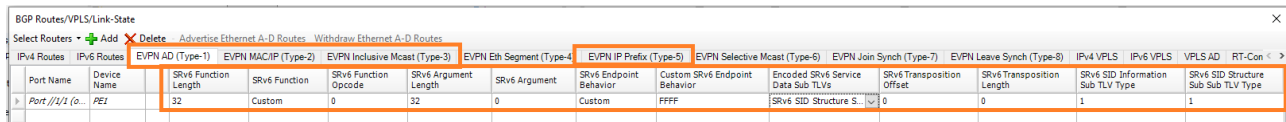
Close

For BGP IPv4/IPv6 routes and IPv4/IPV6 VPN routes, you can use the BGP route editor to configure the values for SRv6 service TLV, Sub-TLVs, and Sub-Sub-TLVs.



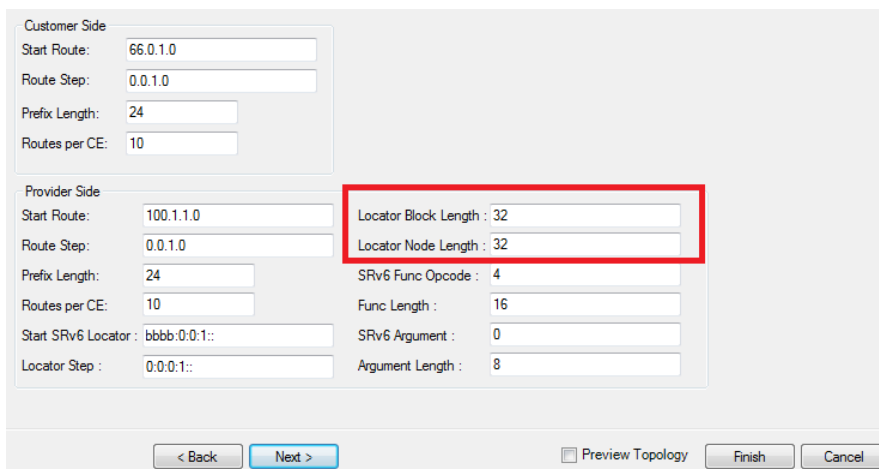
Port Name	Device Name	BGP Custom Attributes	Encoded BGP SR TLVs	SRv6 Locator Block Length	SRv6 Locator Node Length	SRv6 Locator	SRv6 Locator Step	SRv6 Function Length	SRv6 Function	SRv6 Function Opcode	SRv6 Argument Length	SRv6 Argument	SRv6 Endpoint Behavior	Custom SRv6 Endpoint Behavior	Encoded SRv6 Service Data Sub TLVs	SRv6 Transposition Offset	SRv6 Transposition Length	SRv6 SID Information Sub TLV Type	SRv6 SID Structure Sub TLV Type	Custom SRv6 Behavior
Port //1/1 (o)	PE1	0 Attribute	SRv6-VPN S...	32	32	2001::	::	32	Custom	0	32	0	Custom	FFFF		0		1	1	FFFF

Similarly, for EVPN type 1, 2, 3, and 5 routes, you can use the BGP route editor to configure the values for SRv6 service TLV, Sub-TLVs, and Sub-Sub-TLVs.



Port Name	Device Name	SRv6 Function Length	SRv6 Function	SRv6 Function Opcode	SRv6 Argument Length	SRv6 Argument	SRv6 Endpoint Behavior	Custom SRv6 Endpoint Behavior	Encoded SRv6 Service Data Sub TLVs	SRv6 Transposition Offset	SRv6 Transposition Length	SRv6 SID Information Sub TLV Type	SRv6 SID Structure Sub TLV Type
Port //1/1 (o)	PE1	32	Custom	0	32	0	Custom	FFFF	SRv6 SID Structure S...	0	0	1	1

SRv6 wizard now allows you to configure the “Locator Block Length” and “Locator Node Length.”



Customer Side

Start Route: 66.0.1.0

Route Step: 0.0.1.0

Prefix Length: 24

Routes per CE: 10

Provider Side

Start Route: 100.1.1.0

Route Step: 0.0.1.0

Prefix Length: 24

Routes per CE: 10

Start SRv6 Locator: bbbb:0:0:1::

Locator Step: 0:0:0:1::

Locator Block Length: 32

Locator Node Length: 32

SRv6 Func Opcode: 4

Func Length: 16

SRv6 Argument: 0

Argument Length: 8

< Back Next > Preview Topology Finish Cancel

CoAP Server Emulation IPv6 Support

BPK-1373 CoAP Server Emulation Base Package

Spirent TestCenter release 5.07 added IPv6 encapsulation support to CoAP (Constrained Application Protocol) server emulation.

With this release, users can set the “IP Version” of an emulated CoAP server to IPv6, and then set the DUT IPv6 address and IPv6 address step.

Emulated Device Interface											
CoAP Server			6rd/6to4	DS-Lite	BFD	RSVP					
Port Name	Device Name	Tags	Device Count	Active	State	CoAP Version	IP Version	Server Port	Server Port Step	DUT Port	DUT Port Step
Port //1/...	Device 1	Click to ad...	1	<input checked="" type="checkbox"/>	Down	1	IPv6	10000	1	5683	1
							IPv4				
							IPv6				

Emulated Device Interface												
CoAP Server			6rd/6to4	DS-Lite	BFD	RSVP						
Port Name	Device Name	Tags	Device Count	IP Version	Server Port	Server Port Step	DUT Port	DUT Port Step	DTLS	Use Gateway as DUT	DUT IPv6 Address	DUT IPv6 Address Step
Port //1/...	Device 1	Click to ad...	1	IPv6	10000	1	5683	1	<input type="checkbox"/>	<input type="checkbox"/>	2001::1:1	::1

FlexE-100 Enhancements

- Users can now delete and add clients
- Protocol emulation OSPFv2

PX3-400G Series Test Modules

- Add 2x1 LAG support on PX3 400G platform

PX3-QSFP28-12 Series Test Modules, PX3 400G Series Test Modules, and PX3-QSFP-DD Appliances

- PX3 Rate precision

Streams are emitted at rates closer to configured, when streamblock rates need to be adjusted for scheduling on given port.

PX3-QSFP28-12 Series Test Modules (100G speed only)

- PFC support
PFC support for multiple Queues, Counters and Measurement

IEEE1588v2 Tx Rx Signalling Message Counts

This feature provides statistics for Tx Rx Signalling Messages when PTP is emulated with Unicast Negotiation enabled.

- In Classic View:

Carrier Ethernet > IEEE 1588v2 Results > Unicast Negotiation Results:

New Tx and Rx Counts for Announce/Sync/DelayResponse/PdelayResponse are added for the following TLVs:

- Request Unicast transmissions
- Grant Unicast transmissions
- Grant Deny Unicast transmissions
- Cancel Unicast transmissions
- Acknowledge Cancel Unicast transmissions

Carrier Ethernet > IEEE 1588v2 Results > Unicast Negotiation Results | Change Result View ▾

Device Name	Scale Mode	Peer Clock Identity	Peer Unicast Address	Log Announce Interval	Announce Duration (second)	Log Sync Interval	Sync Duration (second)	Log Delay Response Interval	Delay Response Duration (second)	Log Pdelay Response Interval	Pdelay Response Duration (second)	Tx Pdelay Response Request Count	Rx Pdelay Response Request Count	Tx Re

Carrier Ethernet > IEEE 1588v2 Results > Unicast Negotiation Results | Change Result View ▾

Device Name	Tx Sync Request Count	Rx Sync Request Count	Tx Announce Request Count	Rx Announce Request Count	Tx Pdelay Response Grant Count	Rx Pdelay Response Grant Count	Tx Delay Response Grant Count	Rx Delay Response Grant Count	Tx Sync Grant Count	Rx Sync Grant Count	Tx Announce Grant Count	Rx Announce Grant Count	Tx Pdelay Response Grant Deny Count

Device Name	Rx Pdelay Response Grant Deny Count	Tx Delay Response Grant Deny Count	Rx Delay Response Grant Deny Count	Tx Sync Grant Deny Count	Rx Sync Grant Deny Count	Tx Announce Grant Deny Count	Rx Announce Grant Deny Count	Tx Pdelay Response Cancel Count	Rx Pdelay Response Cancel Count	Tx Delay Response Cancel Count	Rx Delay Response Cancel Count	Tx Sync Cancel Count

Device Name	Rx Sync Cancel Count	Tx Announce Cancel Count	Rx Announce Cancel Count	Tx Pdelay Response Acknowledge Cancel Count	Rx Pdelay Response Acknowledge Cancel Count	Tx Delay Response Acknowledge Cancel Count	Rx Delay Response Acknowledge Cancel Count	Tx Sync Acknowledge Cancel Count	Rx Sync Acknowledge Cancel Count	Tx Announce Acknowledge Cancel Count

Spirent Wi-Fi 6 Emulated Client Count Increase

(Maximum 200 per port, 240 per NIC, and 480 per Spirent C50 or Spirent MX2)

In release 5.07, Spirent Wi-Fi 6 gears are further improved to support higher emulated client counts. It can now support up to **240** per NIC and up to **480** per C50 or MX2 test module. In addition to the increase in total emulated client count, it can also support up to 200 client per port, with a condition that the total count per NIC does not exceed 240.

There are a few use scenarios in 3-radio mode with this significant improvement as shown in the screen captures; similar use cases are also applicable to 2-radio mode with this enhancement.

240 clients per NIC or 480 clients per C50 (MX2) with 80 on each port

Port Name	Device Name	Tags	Device Count	Active Client	Active AP	Association State	Client Profiles
Port //1/1	Device 1	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/2	Device 2	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/3	Device 3	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-2.4G@37:9F
Port //1/4	Device 4	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/5	Device 5	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/6	Device 6	Click to ad...	80	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-2.4G@37:9F

200 clients on a port and 40 clients on another port from the same NIC.

Port Name	Device Name	Tags	Device Count	Active Client	Active AP	Association State	Client Profiles
Port //1/1	Device 1	Click to ad...	200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/2	Device 2	Click to ad...	40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/3	Device 3	Click to ad...	1	<input type="checkbox"/>	<input type="checkbox"/>		
Port //1/4	Device 4	Click to ad...	200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/5	Device 5	Click to ad...	40	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/6	Device 6	Click to ad...	1	<input type="checkbox"/>	<input type="checkbox"/>		

200 clients on a 2.4GHz and total 400 clients on 2.4GHz from two 2.4GHz ports of C50 (MX2).

Port Name	Device Name	Tags	Device Count	Active Client	Active AP	Association State	Client Profiles
Port //1/1	Device 1	Click to ad...	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/2	Device 2	Click to ad...	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/3	Device 3	Click to ad...	200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-2.4G@37:9F
Port //1/4	Device 4	Click to ad...	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/5	Device 5	Click to ad...	20	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-5G@27:AF
Port //1/6	Device 6	Click to ad...	200	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ASSOCIATED	EVM-2.4G@37:9F

Spirent TestCenter Enhanced L4-7

Release 5.07 includes these enhancements:

- Subnet allocation with one-to-one mapping of endpoints
- L47 emulated endpoints on DHCP
- Emulated devices can now act both as DHCP Clients and Server
- Multiple profile support for web-authentication with results
- Each profile for web-authentication takes parameters such as which page to connect and the user ID and password to use.
- Users can configure multiple web-authentication settings and have the option to allow L4-7 clients to use different web-authentication settings.

Spirent Support

To obtain technical support for Spirent Communications products, please contact our Support Services department using any of the following methods:

Americas

E-mail: support@spirent.com

Web: <https://support.spirent.com>

Toll Free: +1 800-SPIRENT (+1 800-774-7368) (North America)

Phone: +1 818-676-2616

Hours: Monday through Friday, 05:00 to 17:00 Pacific Time

Europe, Middle East, Africa

E-mail: support@spirent.com

Web: <https://support.spirent.com>

Phone: +33 (1) 6137 2270 (France)

Phone: +44 1803 546333 (UK)

Hours: Monday through Thursday, 09:00 to 18:00, 9:00 to 17:00 Friday, Paris Time

Asia Pacific

E-mail: support@spirent.com

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The latest versions of user manuals, application notes, and software and firmware updates are available on the Spirent Communications Customer Service Center website at <https://support.spirent.com>.

Information about Spirent Communications and its products and services can be found on the main company website at <https://www.spirent.com>.

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