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Spirent AION

Spirent TestCenter Data Center Advanced Bundle

Application Overview

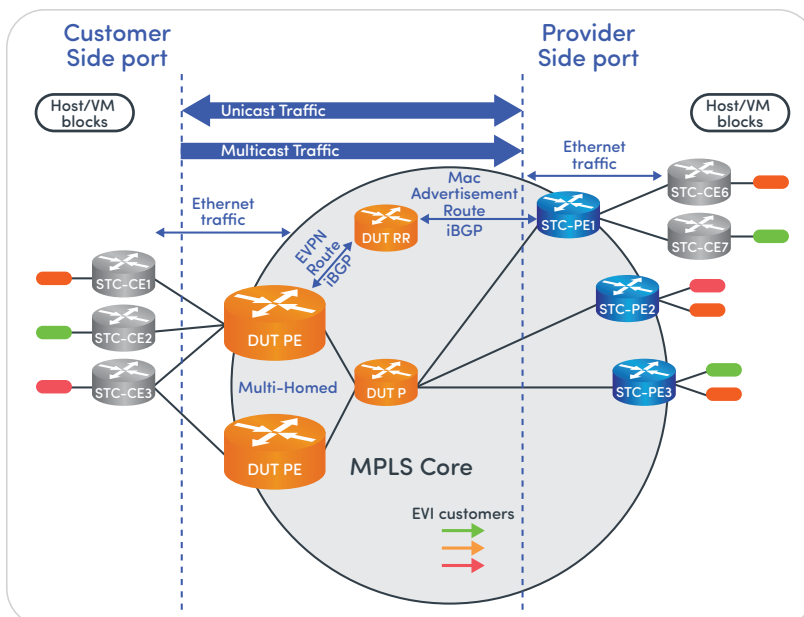
Spirent TestCenter Data Center Advanced Bundle supports high performance and realistic topologies for Layer 2 and Layer 3 overlay networks, data center interconnect, multi-path high-availability, and switching and storage technologies used in Data Centers.

It enables Network Equipment Manufacturers, Service Providers and Enterprises to quickly evaluate and troubleshoot functionality, performance, and scalability of any data center fabric.

These solutions allow users to expose the true performance of high-speed, high-density switches and routers and overall system architecture for datacenter network with ever increasing port densities and speeds under various traffic conditions.

Data Center Advanced Bundle features cover complete testing of Layer 2 and Layer 3 data center networks with advanced technologies such as Virtual Extensible Local Area Network (VXLAN), Ethernet Virtual Private Network (EVPN) control plane with MPLS and VXLAN data-plane and data center interconnect architectures.

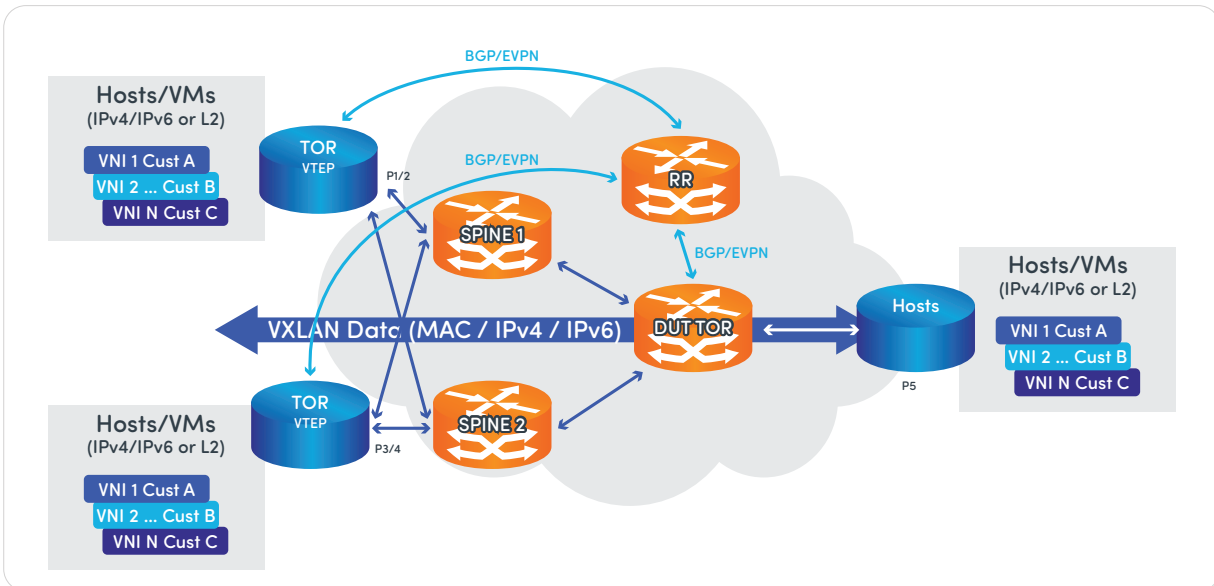
EVPN enables user to connect a group of dispersed customer sites using a Layer 2 virtual bridge. As with other types of VPNs, an EVPN is comprised of customer edge (CE) devices (host, router, or switch) connected to provider edge (PE) devices. The PE devices can include an MPLS edge switch (MES) that acts at the edge of the MPLS infrastructure. **EVPN emulation** supports data plane encapsulations of MPLS, MAC-in-MAC (PBB) and VXLAN.



- Data Center Interconnect Validation**—emulate vast number of VTEPs, PEs, and CEs devices and validate performance and scalability of data center interconnect
- Network/Service Reliability**—verify scale, reliability, performance of Layer 2 & 3 services including data, multicast, and video delivered over data center fabric
- Increase Productivity**—test and configuration wizards allow quick setup; capture functionality, protocol events and live status views make troubleshooting easy with TestCenter IQ and help save time
- Cost-Effective Solution**—complete data center interconnect protocol emulation suite in a single package which is also light on budget
- Trusted Partner**—benefit from decades of testing experience with Spirent as your guide through a world of complex testing

VXLAN Overlay helps users create large private networks of virtual machines across existing Layer 2 and Layer 3 networks. VXLAN Tunnel End Point (VTEP) emulation provides a unique and easy to use interface that creates large multi-segment, multi-virtual machine, and multiple VTEPS to allow for validation of VXLAN enabled devices. **VXLAN emulation** supports a number of ways of learning including traditional data plane-based flood and learn, manual configuration of unicast address or flood list and advanced BGP-EVPN control plane-based learning.

These two packages are integrated component of Spirent TestCenter and work with other Spirent TestCenter components to deliver easy, consistent TCL and Python scripting API and Command Sequencer NoCode automation. These can also be combined with Routing and Switching, Access or Segment Routing control-plane over VXLAN/EVPN-MPLS topology with stateful or stateless data-plane traffic.



Features and Benefits

- Support for dual-stack IPv4 and IPv6 in EVPN emulation with EVPN routes Type 1 to Type 8
- Support for dual-stack VXLAN emulation for IPv4 and IPv6 underlay
- BGP-EVPN control plane integrated with widely used VXLAN-EVPN Overlay and PBB EVPN with comprehensive support for most data plane encapsulations, namely MPLS, VXLAN and MAC-in-MAC
- Inter-subnet forwarding for EVPN and VXLAN with Integrated Routing and Bridging (IRB) Symmetric and Asymmetric
- Support for MAC Mobility in EVPN/VXLAN and measure MAC Mobility Convergence for VXLAN-EVPN overlay
- Support for EVPN services like E-TREE and E-LINE (VPWS)
- Use wizard to quickly emulate large and complex VXLAN/EVPN leaf-spine topologies running broadband access protocols, or stateful application-layer protocols from a single application interface
- Setup and test complex Data Center Interconnect topologies and internetworking between EVPN-VXLAN, EVPN-MPLS and IP VPN
- Support for multiple extension to VXLAN-EVPN Overlay technologies like Multi-Site, Tenant Routed Multicast, Any Source Multicast Underlay
- Support for Access protocols (DHCP/PPPoE/IGMP/MLD) over VXLAN tunnels
- VXLAN VTEP emulation integrated with OVSDB emulation to test VXLAN tunnels in a SDN network
- Validate scalability and protocol functionality in the same test by running multiple protocols concurrently on each port
- Using advanced multi-threading architecture, user can scale number of sessions or route scale with multi-dimension
- Use the Command Sequencer with TCL scripts to send SNMP commands, get SNMP data, configure the device under test, run entire test and generate pass/fail results; advanced command sequencer capabilities allow users to extend Spirent TestCenter to meet their test needs

About AION

Spirent AION is a flexible delivery platform that enables users to achieve improved deployment and provisioning for all their cloud and network testing needs. It is designed to deliver ultimate flexibility in how Spirent TestCenter platforms are purchased and utilized.

The extended platform combines a wealth of industry-leading test solutions with a flexible licensing architecture to support a wide range of next-generation solution-based domain applications.

AION offers a centralized management hub to help leverage software and hardware functionalities across all lab users and locations for a simplified management and decision-making process:

- **Flexible purchasing options** available via subscription, consumption-based, and perpetual plans, with the ability to license different bandwidth, scale, and protocol bundles.
- **Flexible deployment options** offered include cloud-delivery, on-prem, and laptop-hosted licensing services.

Enhanced user serviceability delivers always-on platform services from auto-discovery and inventory management to user and workspace administration, notifications, and log aggregation.

Technical Specifications

Parameter	Description
Data Center Interconnect	
EVPN	• EVPNv4/v6 • EVPN Route Types 1,2,3,4,5,6,7,8 • Inter-subnet forwarding with IRB (Symmetric and Asymmetric) • PBB-EVPN • Data Plane support for MPLS, VXLAN and MAC-in-MAC • All Active / Single Active Aliasing and Load Sharing • Split-Horizon • MAC Mobility
VXLAN	VTEP Learning – • Flood and Learn • Manual configuration Unicast and Flood list • EVPN Control Plane • OVSD (requires license AON-PB-SECURITY)
VXLAN-EVPN Overlay	• VXLANv4/v6 with EVPN Control plane • Inter-subnet forwarding with IRB (Symmetric and Asymmetric) • PIM-ASM support in underlay for BUM traffic • Border Gateway (BGW) emulation in Multisite topology • Tenant Routed Multicast • DHCP/PPPoE/IGMP/MLD control plane over VXLAN tunnel (requires Access Domain license) • MAC Mobility and MAC Mobility Convergence Measurement

Ordering Information

Product Number	Description
AON-PB-DC-ADV*	AION Data Center Advanced Bundle

**Requires AION Routing & Switching (AON-PB-RTSW) license.*

Bundles are available in different number of seats, contact your Spirent Sales Representative to find the right combination for your testing needs.