Juniper® Validated Design

JVD Test Report Brief: Campus Fabric WAN Router Integration

Introduction

This test report brief contains qualification test report data for the Campus Fabric WAN Router Integration Juniper Validated Design Extension (JVDE). This qualification includes validation of the following scenarios:

- Core switch as service block function and stretched VLAN Layer 2 (L2) exit.

- Core switch as service block function and transport VLAN L2 exit.

- Core switch as service block function and eBGP Layer 3 (L3) exit.

- Core switch as service block function and OSPF L3 exit.

- Dedicated service block with eBGP L3 exit.

- Dedicated service block with transport VLAN L2 exit.

If you have questions about this JVDE, contact your Juniper representative.
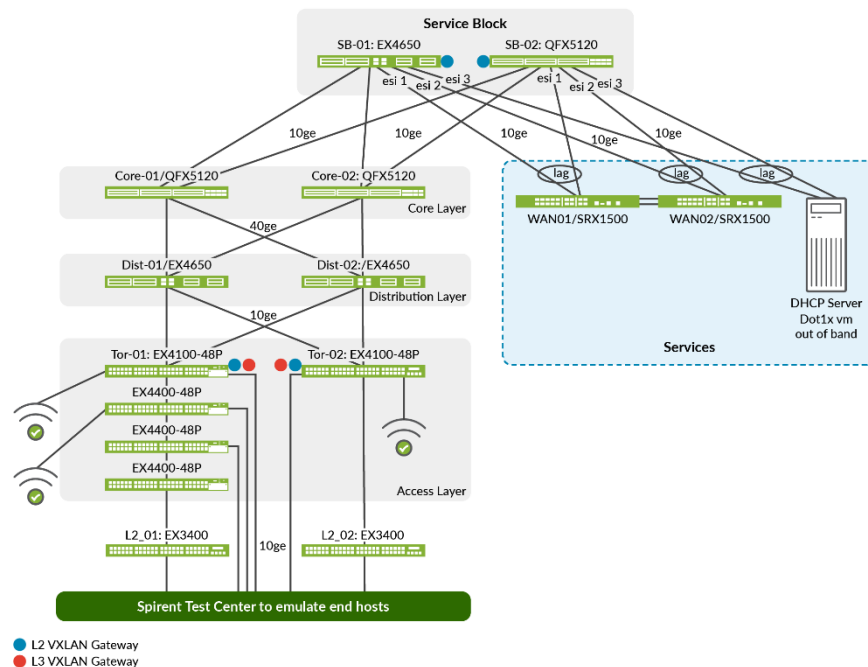
Test Topology

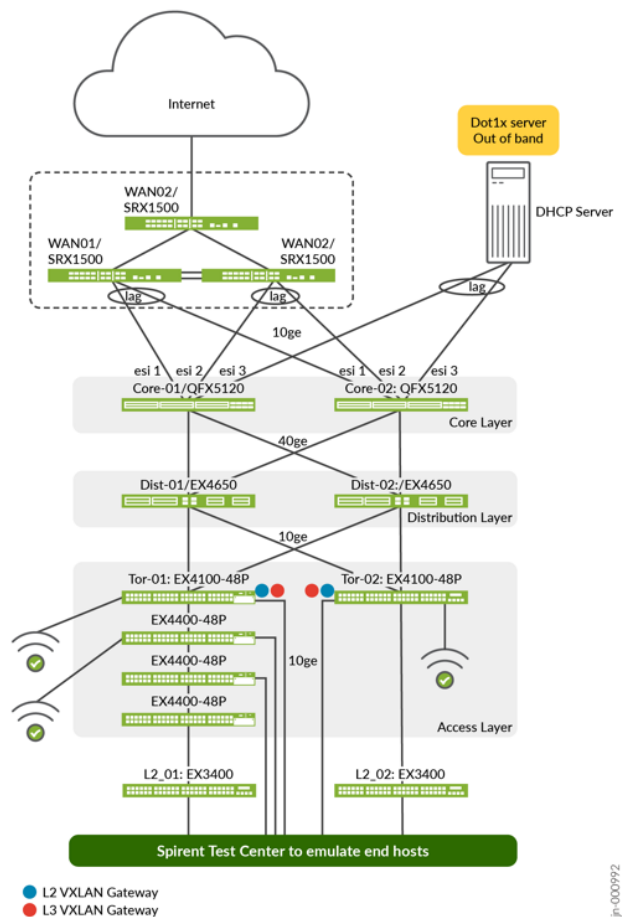
Figure 1: Dedicated Service Bock Switches with SRX Cluster

Figure 2: Service Bock Function Part of Core Switch with MX Routers

Platforms Tested

Table 1: Tested Platforms

Role	Platform	OS
Service Block - Switch	QFX5120-48YM-8C	Junos OS Release 22.4R3
Service Block - Switch	EX4650-48Y-8C	Junos OS Release 22.4R3
Core - Switch	QFX5120-48Y-8C	Junos OS Release 22.4R3
Distribution - Switch	EX4650-48Y-8C	Junos OS Release 22.4R3
Access – Switch (4 member VC)	EX4400-48P	Junos OS Release 22.4R3
Access – Switch (standalone)	EX4100-48P	Junos OS Release 22.4R3
RADIUS Server VM	Linux	Ubuntu 16.04.3 LTS
DHCP Server	EX4100-48P	Junos OS Release 22.4R3

Role	Platform	OS
WAN Router	SRX1500	Junos OS Release 21.2R3
WAN Router	MX80	Junos OS Release 20.3X75-D40

Version Qualification History

This JVDE has been qualified in Junos OS Release 22.4R3.

Scale and Performance Data

Table 2: Scale Data

Services	Scale	Role
Max BGP adjacency	8	Distribution
ARP entries	1200	Access
MAC addresses learned	1200	Access
DHCP relay IRBs	5	Access
EVPN Type 5 VRFs	5	Access
VLANs	20	Access
IRBs	20	Access
Remote VTEPs	3	Core Access
BFD sessions	4	Access Distribution Core

Performance
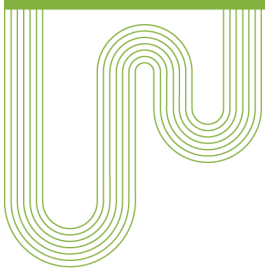Traffic rate: 5000 FPS per stream block.

High Level Features Tested

- The access layer switches have client VLANs distributed across EVPN VRFs.
- All access layer switches act as L2 and L3 VXLAN gateways.
- Each client VLAN has ANYCAST gateway IRB on each access switch.
- BFD is used to provide faster convergence to both the underlay as well as overlay eBGP adjacency.
- WAN devices (MX Series and SRX Series) are connected to service block function devices through ESI-LAG in case of fabric exit through L2 (stretched VLAN and transport VLAN).
- WAN devices (MX Series, and SRX Series) are connected to service block function devices through point-to-point links in case of fabric exit through L3 (OSPF and eBGP).
- Stateless DHCP relay helps the clients get IP addresses from the DHCP server across the IP fabric.
- DHCP server is multihomed to service block function devices.

Event Testing

Failover events:

- Node reboot—service block and access switch.

- Interface flaps—Between service block and WAN device.