Juniper® Validated Design

JVD Test Report Brief: Campus Fabric DHCP Relay

test-report-brief-JVD-ENTWIRED-DHCP-01-01

Introduction

This test report brief contains qualification test report data for the Campus Fabric DHCP Relay Juniper Validated Design Extension (JVDE). This qualification validates the integration of the DHCP server in the following Campus Fabric designs:

- IP Clos fabric—DHCP server integration with local and remote connections, using BGP to connect to the WAN router.
- EVPN multihoming with two collapsed cores—DHCP server integration with local and remote connections, using ESI-LAG to connect to the WAN router.

Test Topology

Figure 1: IP Clos Topology with Local/Remote DHCP Server Attached

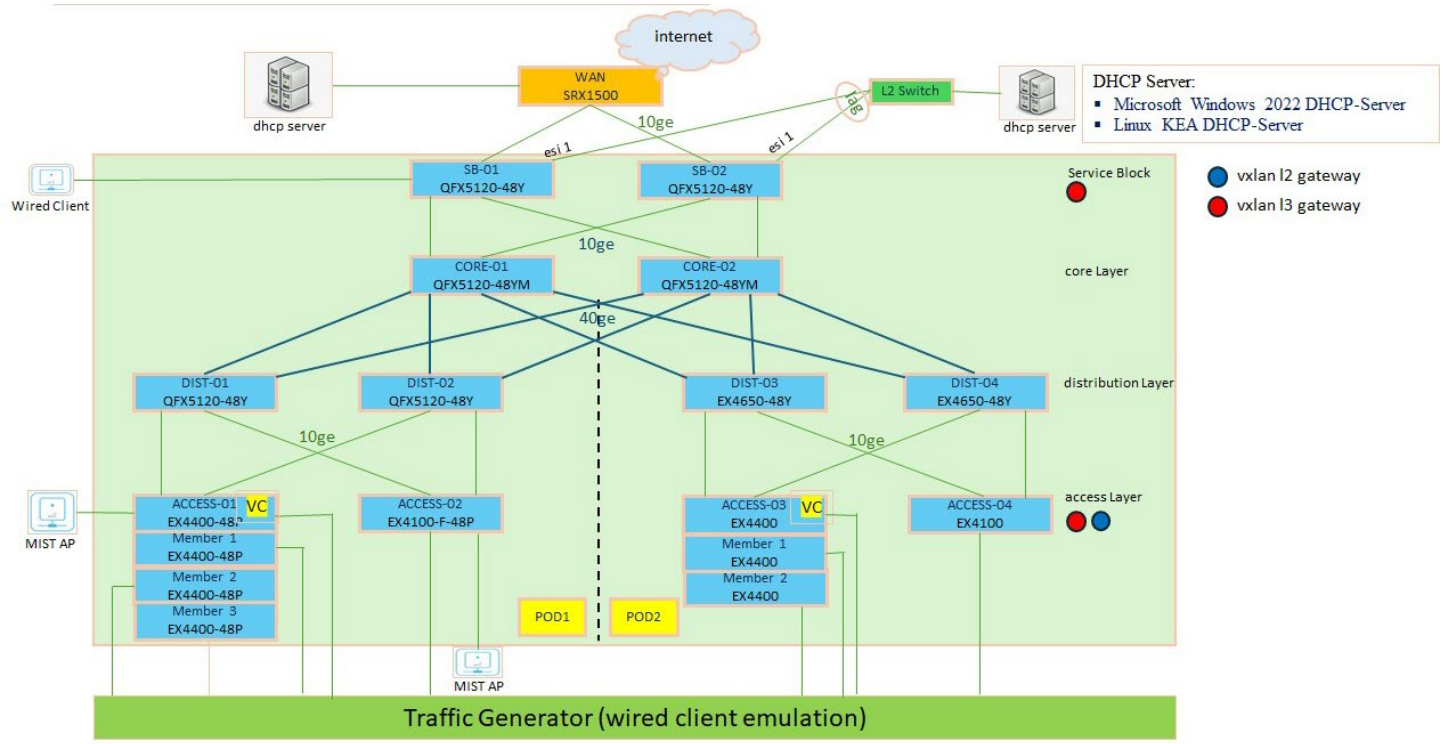
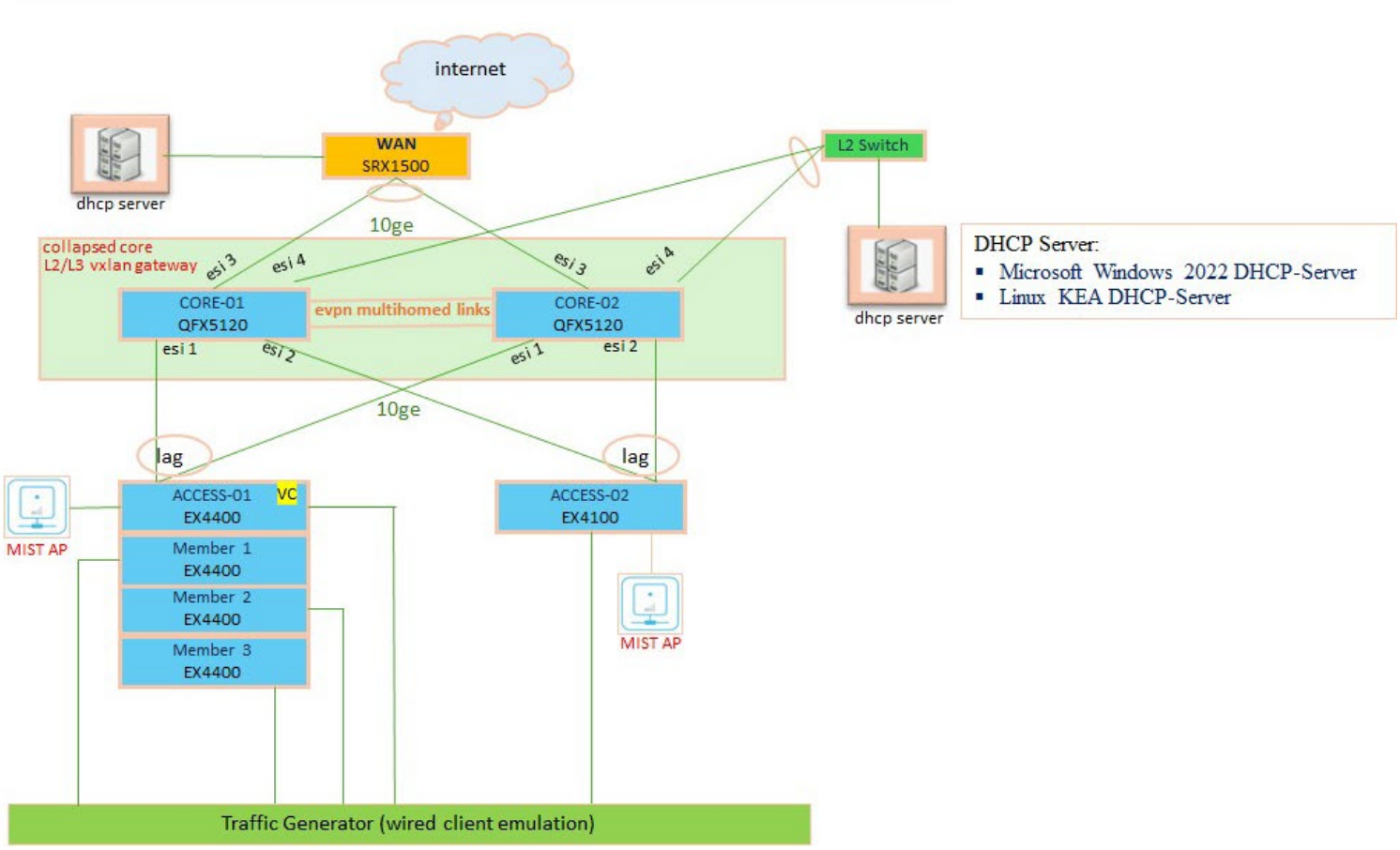


Figure 2: EVPN Multihoming Topology with Local/Remote DHCP Server Attached



Platforms Tested

Table 1: Devices Under Test for the IP Clos Fabric

IP Clos Fabric		
Role	**Platform**	**Junos OS Release**
SERVICEBLOCK-01	QFX5120-48Y-8C	23.4R2-S3
SERVICEBLOCK-02	QFX5120-48Y-8C	23.4R2-S3
CORE-01	QFX5120-48YM-8C	23.4R2-S3
CORE-02	QFX5120-48YM-8C	23.4R2-S3
DISTRIBUTION-01	QFX5120-48Y-8C	23.4R2-S3
DISTRIBUTION-02	QFX5120-48Y-8C	23.4R2-S3
DISTRIBUTION-03	EX4650-48y-8c	23.4R2-S3
DISTRIBUTION-04	EX4650-48y-8c	23.4R2-S3
ACCESS-01	EX4400-48P (Virtual Chassis)	23.4R2-S3
ACCESS-02	EX4100-F-48P	23.4R2-S3
ACCESS-03	EX4100-F-24P (Virtual Chassis)	23.4R2-S3
ACCESS-04	EX4400-48MP	23.4R2-S3
WAN Router	SRX1500	23.4R2

Table 2: Devices Under Test for the EVPN Multihoming Fabric

EVPN Multihoming Fabric:		
Role	**Platform**	**Junos OS Release**
Collapsed CORE-01	QFX5120-48Y-8C	23.4R2-S3
Collapsed CORE-02	QFX5120-48Y-8C	23.4R2-S3
ACCESS-01	EX4400-48P (Virtual Chassis)	23.4R2-S3
ACCESS-02	EX4100-48P (Standalone)	23.4R2-S3
WAN Router	SRX380	23.4R2

Version Qualification History

This JVD has been qualified in Junos OS Release 23.4R2-S3.

Scale and Performance Data

This document may contain key performance indexes (KPIs) used in solution validation. Validated KPIs are multi-dimensional and reflect our observations in customer networks or reasonably represent solution capabilities. These numbers do not indicate the maximum scale and performance of individual tested devices. For uni-dimensional data on individual SKUs, kindly contact your Juniper Networks representatives.

The Juniper JVD team continuously strives to enhance solution capabilities. Consequently, solution KPIs may change without prior notice. Always refer to the latest JVD test report for up-to-date solution KPIs. For the latest comprehensive test report, please reach out to your Juniper Networks representative.

Table 3: Scaling Data for the IP Clos Fabric

IP Clos Fabric		
Features	**Scale Number**	**Role**
Number of SERVICE BLOCK switches tested	2	SERVICE BLOCK
Number of CORE switches tested	2	CORE
Number of DISTRIBUTION switches tested	4	DISTRIBUTION
Number of ACCESS switches tested	4	ACCESS
MAC addresses learned	1000	ACCESS
Maximum BGP adjacency	4	ACCESS
ARP entries	4800	ACCESS
MAC addresses learned	4800	ACCESS
DHCP Relay IRBs	20	ACCESS
EVPN Type 2 VRFs	5	ACCESS
Remote VTEPs	5	ACCESS and SERVICE BLOCK
VLANs	20	ACCESS
IRBs	20	ACCESS

Table 4: Scaling Data for the EVPN Multihoming Fabric

EVPN Multihoming Fabric		
Features	**Scale Number**	**Role**
Number of COLLAPSED CORE switches tested	2	COLLAPSED CORE
Number of ACCESS switches test	2	ACCESS
Maximum BGP Adjacency	2	COLLAPSED CORE
ARP entries	1000	COLLAPSED CORE
MAC addresses learned	1000	COLLAPSED CORE
DHCP Relay IRBs	25	COLLAPSED CORE
EVPN Type 2 VRFs	5	COLLAPSED CORE
Remote VTEPs	1	COLLAPSED CORE
VLANs	25	ACCESS and COLLAPSED CORE
IRBs	25	COLLAPSED CORE

Known Limitations

- When DHCP snooping is configured along with dhcp-relay, all VTEPs may experience DHCP flooding.
- Kernel log messages such as “kernel: if_pfe_ifl_ccc_tcc_info_tlv” may appear in the syslog when configuring the campus fabric is configured. However, these messages do not affect the successful deployment of the fabric.
- On an EVPN multihoming fabric:
  - To prevent multiple copies of DHCP packets flooding across the fabric, add the “no-dhcp-flood” configuration. For more information, see: **https://www.juniper.net/documentation/us/en/software/junos/cli-reference/topics/ref/statement/no-dhcp-flood-edit-interfaces-unit.html**
  - You should also add the DHCP “relay-option-82” configuration. For more information, see: **https://www.juniper.net/documentation/us/en/software/junos/cli-reference/topics/ref/statement/relay-option-82-edit-forwarding-options.html**

Corporate and Sales Headquarters
Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters
Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.207.125.700
Fax: +31.207.125.701