### **Enterprise Computing Solutions - Education Services**

# WUJV

## **TRAINING OFFERING**

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# JUNPER Implementing Data Center Fabric with EVPN and VXLAN (ADCX)

JUN\_ADCX 40 Hours (5 days) £3,995.00

#### Description

This five-day course provides in-depth instructions on IP fabric and Ethernet VPN–Virtual Extensible LAN (EVPN-VXLAN) data center design and

configuration. The course covers other data center concepts, including basic and advanced data center design options that include collapsed spine

and super spine architectures, Data Center Interconnect (DCI), EVPN multicast enhancements, and seamless EVPN-VXLAN stitching. Through

demonstrations and hands-on labs, students will gain experience with these features. This content is based on vEX9214s running Junos OS Release

23.4R1.10.

Note: This course does not cover Juniper Apstra. For Juniper Apstra coverage, see Data Center Automation Using Juniper Apstra

#### Objectives

- Describe basic and advanced data center design concepts.
- Describe and configure an IP fabric.
- Describe and configure an EVPN-VXLAN data center.
- Describe and configure enhanced loop protection.
- Describe and configure centrally routed bridging (CRB) EVPNVXLAN.
- Describe and configure edge-routed bridging (ERB) EVPN-VXLAN.
- Describe and configure symmetric EVPN Type 2 routing.
- Describe and configure DCI.
- Describe and configure seamless EVPN-VXLAN stitching.
- Describe and configure filter-based forwarding.
- Describe enhancements to multicast functionality in an EVPNVXLAN

#### Audience

Individuals responsible for this course includes data center implementation engineers and data center design engineers

#### Prerequisites

• Understanding of the OSI model

• Advanced routing knowledge—the Advanced Junos Enterprise Routing (AJER) course or equivalent knowledge strongly recommended

• Intermediate switching knowledge—the Junos Enterprise Switching Using Enhanced Layer 2 Software (JEX) or equivalent knowledge

• Intermediate to advanced Junos CLI experience

#### Programme

#### DAY 1

- 1 Modern Architectures
- Describe traditional multitier architecture challenges
- Explain next-generation data center architectures
- 2 IP Fabric Underlay Routing
- Describe what an IP fabric is
- Explain routing in an IP fabric
- 3 IP Fabric Underlay Scaling
- Explain how to properly scale an IP fabric
- 4 IP Fabric Underlay Configuration
- Explain how to configure an OSPF-based IP fabric
- underlay network
- Describe how to configure an EBGP-based IP fabric underlay network
- Lab 1: IP Fabric
- 5 VXLAN Overview
- Explain Layer 2 connectivity over a Layer 3 network
- Describe VXLAN Fundamentals
- 6 VXLAN Gateways
- Describe the purpose and function of VXLAN gateways
- 7 EVPN Overview
- Describe EVPN functionality
- Describe EVPN control in a VXLAN deployment
- DAY 2
- 8 EVPN Protocol
- Describe EVPN routing and bridging
- 9 Configuring EVPN-VXLAN Networks
- Discuss how to configure EVPN-controlled VXLAN
- Lab 2: Configuring EVPN-VXLAN Networks
- 10 Enhanced Ethernet Segment Loop Protection
- Describe the loop potential
- Describe and configure the ES loop-detect protocol
- 11 Basic Data Center Architectures
- Describe basic architectures and deployment scenarios
- 12 Configuring a Collapsed Spine
- Describe a collapsed spine architecture
- Configure an underlay network
- Configure an overlay network
- Configure Layer 2 to Layer 3 gateways
- Verify the VXLAN communications
- 13 Super Spine Configuration
- Describe a super spine architecture
- Configure a super spine
- DAY 3
- 14 Configuring Centrally Routed Bridging
- Describe EVPN-VXLAN reference architectures
- Describe centrally routed and bridging
- Configure centrally routed and bridging
- Lab 3: Configure Centrally Routed Bridging
- 15 Configuring Edge-Routed Bridging
- Describe edge-routed bridging
- Explain how to configure edge-routed bridging
- · Explain how to verify edge-routed bridging operations
- Lab 4: Configuring Edge-Routed Bridging

- 16 MAC-VRF Overview
- Describe the benefits of deploying MAC-VRFs
- Identify data center architectures for MAC-VRF use
- Describe the MAC-VRF design options
- 17 MAC-VRF Configuration
- Describe the requirements of deploying MAC-VRFs
- Describe the MAC-VRF use case
- Configure common parameters
- Configure a VLAN-based MAC-VRF
- Configure a VLAN-aware MAC-VRF
- Configure a VLAN-bundle MAC-VRF
- Lab 5: MAC-VRF Configuration
- 18 Symmetric Routing Using Type 2 EVPN
- Describe asymmetric routing
- Describe symmetric routing
- Implement symmetric routing
- Lab 6: Symmetric Routing Configuration

	23 Filter-Based Forwarding				
	Discuss the purpose of filter-based forwarding in a data				
	center				
	<ul> <li>Explain how to configure filter-based forwarding in a data</li> </ul>				
	center				
	<ul> <li>Describe how to verify filter-based forwarding in a data</li> </ul>				
	center				
	Lab 9: Implementing Filter-Based Forwarding				
	24 EVPN Multicast Extensions				
	<ul> <li>Describe the multicast extensions to EVPN</li> </ul>				
	25 EVPN Multicast Configuration				
	<ul> <li>Explain how to configure EVPN multicast</li> </ul>				
	26 EVPN Multicast Assisted Replication				
	<ul> <li>Describe the potential problem with EVPN multicast</li> </ul>				
	Illustrate a use case				
	<ul> <li>Describe assisted replication</li> </ul>				
	<ul> <li>Configure assisted replication</li> </ul>				
DAY 4	<ul> <li>Describe assisted replication with SMET</li> </ul>				
19 DCI with EVPN–VXLAN Network	SELF-STUDY MODULES				
<ul> <li>Discuss DCI with EVPN-VXLAN Network</li> </ul>	27 VXLAN Group-Based Policy—Introduction				
20 Configuring DCI	<ul> <li>Describe an overview of VXLAN group-based policies</li> </ul>				
<ul> <li>Discuss how to configure DCI in the data center</li> </ul>	<ul> <li>Describe the benefits of VXLAN group-based policies</li> </ul>				
Lab 7: Data Center Interconnect	<ul> <li>Configure a VXLAN group-based policy filter</li> </ul>				
21 Seamless EVPN-VXLAN Stitching	28 Zero-Touch Provisioning				
<ul> <li>Explain the purpose of seamless EVPN-VXLAN stitching</li> </ul>	<ul> <li>Explain zero-touch provisioning</li> </ul>				
<ul> <li>Discuss seamless EVPN-VXLAN design options</li> </ul>	<ul> <li>Configure a QFX5100 Series switch using ZTP</li> </ul>				
<ul> <li>Describe a packet walkthrough for seamless EVPNVXLAN stitching 29 Troubleshooting Basics</li> </ul>					
22 Configuring Seamless EVPN-VXLAN Stitching	<ul> <li>Describe troubleshooting tools</li> </ul>				
<ul> <li>Explain how to configure seamless EVPN-VXLAN</li> </ul>	<ul> <li>Explain a basic troubleshooting approach</li> </ul>				
stitching	30 Data Center Devices				
<ul> <li>Describe how to verify EVPN-VXLAN stitching</li> </ul>	<ul> <li>Describe fixed format platforms</li> </ul>				
operations	Describe modular platforms				
Lab 8: Implementing Seamless EVPN-VXLAN Stitching	Describe virtual platforms				

DAY 5

#### **Test and Certification**

RELATED CERTIFICATION JNCIE-DC, JNCIP-DC

#### **Session Dates**

Date	Location	Time Zone	Language	Туре	Guaranteed	PRICE
21 Jul 2025	Virtual Training Class - TP	BST	English	Instructor Led Online		£3,995.00

#### **Additional Information**

This training is also available as onsite training. Please contact us to find out more.