

# Data Center Fabric with EVPN and VXLAN (ADCX)

## COURSE OVERVIEW

This five-day course is designed to provide in-depth instruction on IP fabric and EVPN-VXLAN data center design and configuration. Additionally, the course will cover other data center concepts, including basic and advanced data center design options, Data Center Interconnect (DCI), EVPN multicast enhancements, and an introduction to data center automation concepts. The course ends with a multisite data center design lab.

This content is based on Junos OS Release 17.4R1 and 18.2R1-S3.

### COURSE LEVEL

Advanced

### AUDIENCE

The primary audiences for this course include the following:

- Data Center Implementation Engineers
- Data Center Design Engineers

### PREREQUISITES

- Understanding of the OSI model
- Advanced routing knowledge—the *Advanced Junos Enterprise Routing (AJER)* course or equivalent knowledge
- Intermediate switching knowledge—the *Junos Enterprise Switching (JEX)* course or equivalent knowledge
- Intermediate to advanced Junos CLI experience

### ASSOCIATED CERTIFICATION

[JNCIP-DC](#)

### RELEVANT JUNIPER PRODUCT

- Automation
- Data Center
- Switching
- EX Series
- Junos OS
- MX Series
- QFX Series

### CONTACT INFORMATION

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### OBJECTIVES

- Describe and configure an IP fabric.
- Describe and configure an EVPN-VXLAN data center.
- Identify and configure centrally routed bridging (CRB) EVPN-VXLAN designs.
- Identify and configure edge-routed bridging (ERB) EVPN-VXLAN designs.
- Evaluate basic and advanced data center design concepts.
- Describe and configure DCI.
- Describe enhancements to multicast functionality in an EVPN-VXLAN.
- Describe the role of multicloud data center controllers.

### COURSE CONTENT

#### DAY 1

##### 1 Course Introduction

##### 2 Data Center Fundamentals Overview

- Traditional Multitier Architecture Challenges
- Next Generation Data Center Fabrics
- Juniper Networks Data Center Platforms IP Fabric Configuration

##### 3 IP Fabrics

- IP Fabric Overview
- IP Fabric Routing
- IP Fabric Scaling
- IP Fabric Configuration

##### LAB 1: IP Fabric

##### 4 VXLAN Fundamentals

- VXLAN Functions and Operations
- VXLAN Implementation
- VXLAN Gateways

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## COURSE CONTENT

### DAY 2

#### 5 EVPN Controlled VXLAN

- Benefits of EVPN
- VXLAN Using EVPN Control Plane

#### 6 Configuring EVPN Controlled VXLAN

- Configuring and Monitoring EVPN Signaling for VXLAN Routing

LAB 2: EVPN-VXLAN

### DAY 3

#### 7 Basic Data Center Architectures

- Basic Data Center Architecture
- Base Design
- Design Options and Modifications

LAB 3: EVPN-VXLAN Layer 3 Gateways

#### 8 Data Center Interconnect

- DCI Overview
- DCI Options for a VXLAN Overlay
- EVPN Type 5 Routes
- DCI Example

LAB 4: DCI

### DAY 4

#### 9 Advanced Data Center Architectures

- Advanced Data Center Architectures
- Base Design

#### 10 EVPN Multicast

- Multicast Overview
- Multicast in an EVPN-VXLAN Environment

#### 11 Introduction to Multicloud Data Center

- Data Center Evolution
- Contrail Enterprise Multicloud Use Cases

### DAY 5

#### 12 Comprehensive Data Center Lab

- Data Center Architecture

LAB 5: Data Center Comprehensive Lab

#### A Appendix: Virtual Chassis Fabric

#### B Appendix: Virtual Chassis Fabric Management

#### C Appendix: Junos Fusion Data Center

#### D Appendix: Multichassis LAG

#### E Appendix: Troubleshooting MC-LAG

#### F Appendix: ZTP

#### G Appendix: In-Service Software Upgrade

#### H Appendix: Troubleshooting Basics

#### I Appendix: Data Center Devices

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