

Advanced Data Center Switching (ADCX)

Course Summary

Description

This two-day course is designed to introduce various QFX5k and MX/vMX features including, but not limited to, IP Fabric, Virtual eXtensible Local Area Network (VXLAN) Layer 2 and Layer 3 Gateways, VXLAN with Ethernet VPN (EVPN) signaling, and Data Center Interconnect (DCI) for a VXLAN overlay. Students will learn to configure and monitor these features that exist on the Junos operating system running on the QFX5100 and vMX Series platform. Through demonstrations and hands-on labs, students will gain experience configuring, monitoring, and analyzing the above features of the Junos OS. This course is based on Junos OS Release 14.1X53.

Advanced Data Center Switching (ADCX) is an advanced-level course.

Objectives

At the end of this course, students will be able to:

- Describe the benefits and challenges of the traditional multitier architecture
- Describe the new networking requirements in a data center.
- Describe the various data center fabric architectures.
- Explain routing in an IP Fabric.
- Describe how to scale an IP Fabric.
- Configure an EBGp-based IP Fabric.
- Explain why you would use VXLAN in your data center.
- Describe the control and data plane of VXLAN in a controller-less overlay.
- Describe how to configure and monitor VXLAN when using multicast signaling.
- Describe the benefits of using EVPN signaling for VXLAN.
- Describe the operation of the EVPN protocol.
- Configure and monitor EVPN signaling for VXLAN.
- Define the term Data Center Interconnect.
- Describe the control and data plane of an MPLS VPN.
- Describe the DCI options when using a VXLAN overlay with EVPN signaling.

Topics

- Course Introduction
- Next Generation Data Centers
- IP Fabric
- VXLAN
- EVPN
- Data Center Interconnect

Audience

This course benefits individuals responsible for configuring and monitoring switching features that exist on the Junos OS running on the QFX5k and MX Series platforms, including individuals in professional services, sales and support organizations, and the end users.

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Course Summary (cont'd)

Prerequisites

The following are the prerequisites for this course:

- Understanding of the OSI model
- Junos OS configuration experience, the Introduction to the Junos Operating System (IJOS) course or equivalent
- Advanced routing knowledge, the Advanced Junos Enterprise Routing (AJER) course or equivalent
- Intermediate switching knowledge, the Junos Enterprise Switching Using Enhanced Layer 2 Software (JEX-ELS) and Data Center Switching (DCX) courses or equivalent.

Duration

Two days

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Course Outline

I. Course Introduction

II. Next Generation Data Centers

- A. Traditional Multitier Architecture
- B. Data Center Fabric Architectures

III. IP Fabric

- A. IP Fabric Overview
- B. IP Fabric Routing
- C. IP Fabric Scaling
- D. Configure an IP Fabric

Lab: IP Fabric

IV. VXLAN

- A. Layer 2 Connectivity over a Layer 3 Network
- B. VXLAN using Multicast Control Plane
- C. VXLAN Configuration

Lab: VXLAN

V. EVPN

- A. The Benefits of EVPN
- B. VXLAN using EVPN Control Plane
- C. VXLAN Configuration

Lab: VXLAN

VI. Data Center Interconnect

- A. DCI Overview
- B. MPLS VPN Review
- C. DCI Options for a VXLAN Overlay

Lab: DCI