

Advanced Data Center Switching (ADCX)

Engineering Simplicity

COURSE LEVEL

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

AUDIENCE

The primary audiences for this course are 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; and
- Intermediate switching knowledge—the *Junos Enterprise Switching* (JEX) or equivalent;
- 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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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 multi-site data center design lab. This content is based on Junos OS Release 17.4R1 and 18.2R1-S3.

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	3	IP Fabrics
2	Data Center Fundamentals Overview	4	VXLAN Fundamentals
	<ul style="list-style-type: none"> Traditional Multitier Architecture Challenges Next Generation Data Center Fabrics Juniper Networks Data Center Platforms 		<ul style="list-style-type: none"> IP Fabric Overview IP Fabric Routing IP Fabric Scaling IP Fabric Configuration <p>LAB 1: IP Fabric</p>
			<ul style="list-style-type: none"> VXLAN Functions and Operations VXLAN Implementation VXLAN Gateways

Day 2

5	EVPN Controlled VXLAN	6	Configuring EVPN Controlled VXLAN
	<ul style="list-style-type: none"> Benefits of EVPN VXLAN Using EVPN Control Plane 		<ul style="list-style-type: none"> Configuring and Monitoring EVPN Signaling for VXLAN Routing <p>LAB 2: EVPN-VXLAN</p>

Day 3

7	Basic Data Center Architectures	8	Data Center Interconnect
	<ul style="list-style-type: none"> Basic Data Center Architecture Base Design Design Options and Modifications <p>LAB 3: EVPN-VXLAN Layer 3 Gateways</p>		<ul style="list-style-type: none"> DCI Overview DCI Options for a VXLAN Overlay EVPN Type 5 Routes DCI Example

Day 4

8	Data Center Interconnect	10	EVPN Multicast
	LAB 4: DCI		<ul style="list-style-type: none"> Multicast Overview Multicast in an EVPN-VXLAN Environment
9	Advanced Data Center Architectures	11	Introduction to Multicloud Data Center
	<ul style="list-style-type: none"> Advanced Data Center Architectures Base Design 		<ul style="list-style-type: none"> Data Center Evolution Contrail Enterprise Multicloud Use Cases

Day 5

12	Comprehensive Data Center Lab <ul style="list-style-type: none"> • Data Center Architectures LAB 5: Data Center Comprehensive Lab	E	Appendix: Troubleshooting MC-LAG
A	Appendix: Virtual Chassis Fabric	F	Appendix: ZTP
B	Appendix: Virtual Chassis Fabric Management	G	Appendix: In-Service Software Upgrade
C	Appendix: Junos Fusion Data Center	H	Appendix: Troubleshooting Basics
D	Appendix: Multichassis LAG	I	Appendix: Data Center Devices

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