ARROW

Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Juniper Networks Design-Data Center (JND-DC)

CODE:	LENGTH:	PRICE:
JUN_JND-DC	40 Hours (5 days)	£4,125.00

Description

This five-day course is designed to cover best practices, theory, and design principles for data center design including data center architectures, data center interconnects, security considerations, virtualization, and data center operations.
JND-DC is an intermediate-level course. Relevant Juniper Product
• Design • Network Design • Contrail • EX Series • Junos OS • Junos Space • Junos Space Network Director • Junosphere / VJX • MX Series • QFabric • QFX Series • SRX Series • Design Track • Instructor-Led Training

Objectives

After successfully completing this course, you should be able to:
• State high-level concepts about different data center architectures.
• Identify features used to interconnect data centers.
• Identify key high-level considerations about securing and monitoring a data center deployment.
• Outline key high-level concepts when implementing different data center approaches.
• Recommend data center cooling designs and considerations.
• Explain device placement and cabling requirements.
• Outline different data center use cases with basic architectures.
• Describe a traditional multitier data center architecture.
• Explain link aggregation and redundant trunk groups.
• Explain multichassis link aggregation.
• Summarize and discuss key concepts and components of a Virtual Chassis.
• Summarize and discuss key concepts and components of a VCF.
• Summarize and discuss key concepts and components of a QFabric System.
• Summarize and discuss key concepts and components of Junos Fusion.
• List the reasons for the shift to IP fabrics.
• Summarize how to scale an IP fabric.
• State the design considerations of a VXLAN overlay.
• Define the term Data Center Interconnect.
• List differences between the different Layer 2 and Layer 3 DCIs.
• Summarize and discuss the benefits and use cases for EVPN.
• Discuss the security requirements and design principles of the data center.
• Identify the security elements of the data center.
• Explain how to simplify security in the data center.
• Discuss the security enforcement layers in the data center.
• Summarize and discuss the purpose of SDN.
• Explain the function of Contrail.
• Summarize and discuss the purpose of NFV.
• Discuss the purpose and function of vSRX and vMX.
• Discuss the importance of understanding the baseline behaviors in your data center.
• List the characteristics of the Junos Space Network Management Platform and describe its deployment options.
• Describe the importance of analytics.
• Discuss automation in the data center.
• Discuss the benefits of QoS and CoS.
• State the benefits of a converged network.
• Identify general aspects of data center migration.
• Summarize and discuss best practices for migration planning.
• Outline some common migration scenarios.
• Summarize high availability design considerations in the data center.
• Provide an overview of high availability offerings and solutions in the data center.

Audience

This course is targeted specifically for those who have a solid understanding of operation and configuration and are looking to enhance their skill sets by learning the principles of design for the data center.

Prerequisites

The following are the prerequisites for this course: • Knowledge of routing and switching architectures and protocols.
• Knowledge of Juniper Networks products and solutions. • Understanding of infrastructure security principles.
• Basic knowledge of hypervisors and load balancers. • Completion of the Juniper Networks Design Fundamentals (JNDF) course.

Programme

Day 1 Course Introduction Overview of Data Center Design • Initial Considerations • Architectures and Design Considerations
• Connecting Data Centers • Security and Operation • Implementation Considerations Initial Design Considerations
• Physical Layout and Placement • Environmental Conditions • Cabling Options • Data Center Use Cases
Traditional Data Center Architecture • Traditional Multitier Architecture • Link Aggregation and Redundant Trunk Groups
• Multichassis Link Aggregation Lab: Designing a Multitier Architecture   Day 2 Ethernet Fabric Architectures • Virtual Chassis
• Virtual Chassis Fabric • Junos Fusion • Ethernet Fabric Design Consideration Lab: Ethernet Fabric Architectures Day 3
IP Fabric Architecture • The Shift to IP Fabrics • IP Fabric Routing Design • IP Fabric Scaling • Overlay Netowrk
Lab: IP Fabric Architecture Data Center Interconnect • DCI Overview • Layer 2 DCI • EVPN Use Cases • Layer 3 DCI
Lab: Data Center Interconnect Day 4 Securing the Data Center • Overview of Data Center Security • Network Security Elements
• Network Security in the Data Center • Network Security Functions in the Data Center Lab: Securing the Data Center
SDN and Virtualization in the Data Center • SDN Overview • Using Contrail in the Data Center • Using NFV in the Data Center
• Understanding Contrail in the Data Center • Virtual Environments in the Data Center • Collecting Analytics with AppFormix
Lab: SDN and Virtualization Data Center Operation • Understanding Baseline Behaviors • Junos Space and JSA
• Understanding Logging and Analytics • Deploying Automation in the Data Center Lab: Operating a Data Center Day 5
Traffic Prioritization for Converged Networks • Understanding QoS and CoS • Converging Networks
Lab: Prioritizing Data in the Data Center Migration Strategies • Migration Overview • Common Scenarios • Migration Case Study
High Availability • Data Center High Availability Overview • Link Level and Physical Device Redundancy
• Device-Level Redundancy

Test and Certification

Associated Certification JNCDS-DC Exams can be purchased and scheduled at an additional cost – please ask for details.

Session Dates

On request. Please Contact Us

Additional Information

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