Juniper Networks Design Fundamentals

COURSE OVERVIEW

This three-day course is designed to cover introductory best practices, theory, and design principles for overall network design.

Key topics include fundamental network design concepts as well as basic design concepts of data centers, enterprise WAN, wireless LAN (WLAN), software-defined WAN (SD-WAN), security, network management, and network automation. Other key concepts included are Request for Proposal (RFP) and Request for Information (RFI) creation, Juniper product review, network migration strategies, IP fabric design, and business continuity.

COURSE LEVEL

Introductory

AUDIENCE

- Individuals with a solid understanding of operation and configuration
- Individuals who are looking to enhance their skill sets by learning introductory principles of network design

PREREQUISITES

- 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

RELATED JUNIPER PRODUCTS

- ACX Series
- EX Series
- JSA Series
- Juniper Apstra
- Junos Space Security Director
- Mist AI
- NFX Series
- Paragon
- PTX Series
- SRX Series

RELATED CERTIFICATION

JNCIA-Design

RECOMMENDED NEXT COURSE

JNCIE-SP Self-Study Bundle

CONTACT EDUCATION SERVICES

Americas: training-amer@juniper.net
EMEA: training-emea@juniper.net
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OBJECTIVES

- Provide an overview of network design needs and common business requirements.
- Identify key product groups related to campus, WAN, data center, and security architectures.
- Describe and interpret common RFP requirements.
- Describe a network design by gathering data and working with key stakeholders.
- List ways of processing customer data and design requests.
- Identify boundaries and scope for the design proposal.
- List some considerations when creating a design proposal.
- Provide an overview of network security design principles and common vulnerabilities.
- List high-level design considerations and best practices for securing the network.
- List the components of the campus network design.
- State best practices and design considerations for the campus.
- Describe architectural design options for the campus.
- List the components of the WAN.
- Describe best practices and design considerations for the WAN.
- Describe design options for the WAN.
- List the components of the data center design.
- Describe best practices and design considerations for the data center.
- Describe architectural design options for the data center.
- Define business continuity and its importance in a network design.
- Describe high availability design considerations and best practices.
- Provide an overview of high-availability offerings and solutions.
- Describe class-of-service design considerations.
- Provide an overview of environmental considerations in network design.
- List design considerations and best practices for managing the network.
- Provide an overview of both Juniper Networks and third-party options for network management.
- List design considerations and best practices for network automation.
- Provide an overview of automation tools.
- Explain the foundational topics that have been taught throughout the course.
- Create a network design proposal that satisfies customer requirements and business needs.
- Provide an overview of the steps involved in migrating a network.
- Describe best practices used in network migration.
- List the various campus network topographies.
- Describe sample design options for the campus.
- Explain how to design wireless LANs.
- Describe how to design IP fabrics in a data center.
- List the best practices for deploying SD-WAN.

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COURSE CONTENTS

ALL-ACCESS TRAINING PASS | ON-DEMAND | COURSES | SCHEDULE | LEARNING PATHS | CERTIFICATION

COURSE CONTENTS (continued)

SELF-STUDY MATERIALS

17 **Self-Study: Network Migration Strategies**

- Provide an overview of the steps necessary to migrate a network
- Explain approaches for network migration
- Describe example scenarios used in network migration

18 **Self-Study: Designing IP Fabrics**

- Explain IP fabric design options
- Describe routing in an IP fabric
- Explain how to scale an IP fabric

19 **Self-Study: Business Continuity and Network Enhancements**

- Define business continuity and its importance in a network
- Describe high availability design considerations and best practices
- Provide an overview of high-availability offerings and solutions

20 **Self-Study: Network Management**

- Design a management network

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