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## Routing & Switching Solutions for Systems Engineers

Duration: 5 Days    Course Code: RSSSE

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### Overview:

Routing and Switching for Systems Engineers(RSSE) v1.0 teaches learners how to plan activities that provide a technical description of solutions presented to customers and point out specific advantages of selecting Cisco Solutions as part of a System Engineer and field Engineer team effort. It will prepare the learner to develop a detailed network design for the customer's advanced routing and switching needs, including Border Gateway Protocol (BGP), Multiprotocol Label Switching (MPLS), Quality of Service (QoS), High Availability (HA), and IP version 6 (IPv6).

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### Target Audience:

Cisco Premier Channel Partner Systems Engineers  
Cisco Customer Systems Engineers

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### Objectives:

- Describe detailed technical features of BGP, and plan BGP implementations
  - Describe advantages and features of a Cisco MPLS solution, and plan MPLS implementations
  - Describe and plan Cisco solutions for QoS in a voice and video integrated network
  - Provide requirements and design for a high availability design at layers 1, 2 and 3
  - Plan for an IPV6 address design, including migration
  - Describe the current Cisco product line for both switching and routing with an emphasis on when and where to recommend the various platforms
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### Prerequisites:

Cisco Certified Design Associate (CCDA) certification

Level of knowledge equivalent to the following Cisco courses:

- *Foundation Express for Systems Engineers (CFXSE)*
- *Implementing Cisco Quality of Service (QoS)*
- *Building Scalable Cisco Internetworks (BSCI)*

### Testing and Certification

- [642-054 RSSSE](#)
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## Content:

### Course Introduction

- Determining the Need for BGP
- Reviewing BGP
- Defining BGP Path Attributes
- Designing a BGP Transit AS
- Solving IBGP Scalability Issues
- Examining Practical BGP Design Examples Maps

### Understanding and Designing MPLS Solutions

- Reviewing BGP
- Defining MPLS Concepts
- Describing MPLS Label Distribution in Frame-Mode MPLS
- Describing MPLS Label Distribution in Frame-Mode MPLS

### Planning a Campus QoS Implementation

- Reviewing BGP
- QoS Toolset - Classification and Marking
- QoS Toolset - LAN Classification and Marking
- QoS Toolset - Congestion Management

### Designing a High Availability Campus Network

- Determining the Need for a High Availability Network
- Planning for Layer 3 High Availability
- Planning for Layer 2 High Availability
- Planning for Hardware and Software Redundancy on Modular Switches
- Planning for Redundancy with Stacked Switches
- Defining HA Best Practices in the Campus Network

### Describing and Designing IPv6 Networks

- Introducing IPv6 Features and Benefits
- Defining the IPv6 Addressing Architecture
- Defining Advanced IPv6 Features
- Examining Routing Protocol Enhancements in IPv6
- Examining IPv6 Integration and Migration options
- Designing an IPv6 Deployment

### Designing Cisco Networks and Choosing Cisco Products

- Designing a Cisco Network
- Choosing Cisco Routing and Switching Solutions

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## Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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