

## ENARSI

# Implementing Cisco Enterprise Advanced Routing and Services

40 horas

Enterprise Network

Cisco

Cisco Continuing Education Credits

**40 CE Credits**

## INTRODUÇÃO

### Course Description

The Implementing Cisco Enterprise Advanced Routing and Services (ENARSI) v1.0 gives you the knowledge you need to install, configure, operate, and troubleshoot an enterprise network. This course covers advanced routing and infrastructure technologies, expanding on the topics covered in the Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.0 course.

## OBJETIVO DO CURSO

After taking this course, you should be able to:

Configure classic Enhanced Interior Gateway Routing Protocol (EIGRP) and named EIGRP for IPv4 and IPv6

Optimize classic EIGRP and named EIGRP for IPv4 and IPv6

Troubleshoot classic EIGRP and named EIGRP for IPv4 and IPv6

Configure Open Shortest Path First (OSPF)v2 and OSPFv3 in IPv4 and IPv6 environments

Optimize OSPFv2 and OSPFv3 behavior

Troubleshoot OSPFv2 for IPv4 and OSPFv3 for IPv4 and IPv6

Implement route redistribution using filtering mechanisms

Troubleshoot redistribution

Implement path control using Policy-Based Routing (PBR) and IP service level agreement (SLA)

Configure Multiprotocol-Border Gateway Protocol (MP-BGP) in IPv4 and IPv6 environments

Optimize MP-BGP in IPv4 and IPv6 environments

Troubleshoot MP-BGP for IPv4 and IPv6

Describe the features of Multiprotocol Label Switching (MPLS)

Describe the major architectural components of an MPLS VPN

Identify the routing and packet forwarding functionalities for MPLS VPNs

Explain how packets are forwarded in an MPLS VPN environment

Implement Cisco Internetwork Operating System (IOS®) Dynamic Multipoint VPNs (DMVPNs)

Implement Dynamic Host Configuration Protocol (DHCP)

Describe the tools available to secure the IPV6 first hop

Troubleshoot Cisco router security features

Troubleshoot infrastructure security and services

## **PÚBLICO-ALVO**

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Enterprise network engineers

System engineers

System administrators

Network administrators

## **PRÉ-REQUISITOS**

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Before taking this course, you should have:

General understanding of network fundamentals

Basic knowledge of how to implement LANs

General understanding of how to manage network devices

General understanding of how to secure network devices

Basic knowledge of network automation

# CONTEÚDO PROGRAMÁTICO

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**Implementing EIGRP**

**Optimizing EIGRP**

**Troubleshooting EIGRP**

**Implementing OSPF**

**Optimizing OSPF**

**Troubleshooting OSPF**

**Implementing Internal Border Gateway Protocol (IBGP)**

**Optimizing BGP**

**Implementing MP-BGP**

**Troubleshooting BGP**

**Configuring Redistribution**

**Troubleshooting Redistribution (Self Study)**

**Implementing Path Control**

**Exploring MPLS (Self Study)**

**Introducing MPLS L3 VPN Architecture (Self Study)**

**Introducing MPLS L3 VPN Routing (Self Study)**

**Configuring Virtual Routing and Forwarding (VRF)-Lite**

**Implementing DMVPN**

**Implementing DHCP**

**Troubleshooting DHCP**

**Introducing IPv6 First Hop Security (Self Study)**

**Securing Cisco Routers**

**Troubleshooting Infrastructure Security and Services (Self Study)**

**Lab Outline**

Configure EIGRP Using Classic Mode and Named Mode for IPv4 and IPv6

Verify the EIGRP Topology Table

Configure EIGRP Stub Routing, Summarization, and Default Routing  
Configure EIGRP Load Balancing and Authentication  
LAB: Troubleshoot EIGRP Issues  
Configure OSPFv3 for IPv4 and IPv6  
Verify the Link-State Database  
Configure OSPF Stub Areas and Summarization  
Configure OSPF Authentication  
Troubleshoot OSPF  
Implement Routing Protocol Redistribution  
Manipulate Redistribution  
Manipulate Redistribution Using Route Maps  
Troubleshoot Redistribution Issues  
Implement PBR  
Configure IBGP and External Border Gateway Protocol (EBGP)  
Implement BGP Path Selection  
Configure BGP Advanced Features  
Configure BGP Route Reflectors  
Configure MP-BGP for IPv4 and IPv6  
Troubleshoot BGP Issues  
Implement PBR  
Configure Routing with VRF-Lite  
Implement Cisco IOS DMVPN  
Obtain IPv6 Addresses Dynamically  
Troubleshoot DHCPv4 and DHCPv6 Issues  
Troubleshoot IPv4 and IPv6 Access Control List (ACL) Issues  
Configure and Verify Control Plane Policing  
Configure and Verify Unicast Reverse Path Forwarding (uRPF)  
Troubleshoot Network Management Protocol Issues: Lab 1  
Troubleshoot Network Management Protocol Issues: Lab 2