IOS-XR (TELECON O&M SERIES: OPERAÃ§Ã£O E CONFIGURAÃ§Ã£O DO CISCO IOS XR) 1.0

Objetivo

Ao termino deste treinamento, o participante serÃi capaz de: â□¢ Descrever os principais conceitos do Cisco IOS XR; â□¢ Configurar via CLI o Cisco IOS XR; â□¢ Administrar o Cisco IOS XR; â□¢ Administrar usuÃirios; â□¢ Entender a operaÃ§Ã£o do Cisco IOS XR; â□¢ Configurar os comandos bÃisicos dos protocolos OSPF, BGP e MPLS em dispositivos com Cisco IOS XR; â□¢ Entender e configurar Route Policy Language - RPL; â□¢ Entender e configurar os principais comandos da VPN MPLS Layer 3.

PÃºblico Alvo

O pÃºblico inclui os profissionais que demandam conhecimentos para entender, operar e configurar uma soluÃ§Ã£o que contenha o sistema operacional Cisco IOS XR.

PrÃ©-Requisitos

Para maior aproveitamento Ã© recomendado que o aluno possua conhecimentos em redes IPs e conhecimentos bÃisicos dos protocolos OSPF, BGP e MPLS; Estes conhecimentos podem ser obtidos atravÃ©s dos treinamentos das certificaÃ§Ãµes Cisco CCNA e CCNP Enterprise.

Carga HorÃiria

40 horas (5 dias).

ConteÃºdo ProgramÃitico

• **Cisco IOS XR Software Overview**
o Cisco IOS XR Architecture
o High Availability (HA) Components
o HA: Plane Separation
o HA: Fault Tolerance and Isolation
o HA: Nonstop Forwarding
o Minimum Disruption Restart
o ISSU - In Service Software Upgrade Capability
o Scalability Features

• **Cisco IOS XR Software Basics**
o Two-Stage Configuration
o Configuration File System
o Access and Login

o Command Modes
o Configuration Modes
o Administration Modes
o Command Mode Examples
o Virtual Routing and Forwarding
o Configuration Considerations
o Configuring Management Ethernet
o Hostname
o Configuring Loopback Address
o Configuring Network Interfaces
o Configuring Static and Default Routes
o Configuring Telnet Access
o Commit
o Displaying the Active Configuration
o Displaying the Target Configuration
o Displaying the Merged Configuration
o Displaying the Interfaces
o Displaying the IP Interfaces
o Displaying the Routing Table
o Redundancy Commands

• **Cisco IOS XR Security**
o Basic Security Overview
o Prerequisites for Secure Access
o Secure Access Implementation
o Local Security Database
o Remote Security Database
o Secure Access Policy
o Secure Access Policy Implementation
o Task-Based Authorization
o Site-Defined Groups and Users
o Site-Defined Group Examples
• *Task groups*
o Creating Site-defined Task Groups
o Verify “taskgroup” Configuration
• *User groups*
o Predefined User Groups
o Predefined User Group Permissions
o Creating Site-defined User Groups
o Verify “usergroup” Configuration
o Configuring Users
o Verifying User Configuration
• *Access lists*
o Access Control List Overview
o Creating ACL and Applying to Interface
o Editing ACLs
o Resequencing ACLs
o Copying ACLs

o Displaying Access Lists

• **Cisco IOS XR Operations**
o Preconfiguration
o Locking and Unlocking the Configuration
o Clearing Target Configuration Changes
o Saving a Target Configuration
o Aborting Configuration Mode
o Failed Configuration Commands
o Displaying Configuration Changes
o Other Commit Keywords
o Commit Comments and Labels
o Configuration Sessions
o Configuration Checkpoint and Rollback
o Displaying Stored Configuration Commits
o Displaying Committed Changes
o Displaying Rollback Information
o Rolling Back Configurations
o Loading a Specific Configuration
o Saving and Restoring Configuration Files
o Process Restartability
o Process Stop
o Process Restart

• **IOS XR routing protocols**
• *OSPF Protocol*
o Feature Support
o CLI Configuration Structure
o Router Command and Submode
o Area Command and Submode
o Area Types
o interface Command and Submode
o Network Types
o Authentication Types
o Configuration Example
o OSPF Status
o Interface Operation
o Neighbor Adjacencies
• *BGP Protocol*
o Feature Support
o CLI Configuration Structure
o Configuring iBGP: Router Command and Submode
o Router address-family Command and Submode
o Neighbor Command and Submode
o Neighbor address-family Command and Submode
o Configuration Groups
o Neighbor-group Command and Submode
o Configuration Example

o BGP and Neighbor Status
o Peer Session Operation

• Route policy language – RPL
o RPL Overview: Background
o Fundamental Capabilities
o Infrastructure
o RPL Description: Basic Building Blocks
o Hierarchical Policy
o Parameterized Policy
o Attach Point
o Sets
o Prefix Set
o AS Path Set
o Community Set
o Extended Community Set
o Route Distinguisher Set
o Conditional Statements
o Nested Conditionals
o Boolean Conditions
o Compound Conditions
o Drop Condition
o Attribute Value Determination
o Converting Route Maps to RPL Policies
o Initial Route Map Configuration
o Direct Translation
o Nest Conditionals
o Use Inline Sets
o Parameterize
o Final RPL Policy Configuration

• Multiprotocol Label Switching - MPLS protocol
o MPLS Forwarding Infrastructure
o Displaying MPLS Forwarding
o LDP - Label Distribution Protocol
o LDP IGP Synchronization
o Enabling LDP
o LDP Router ID
o LDP Neighbors
o LDP Penultimate Hop
o Restarting LDP Sessions
o Displaying LDP Parameter Information
o LDP Label Information Base
o Displaying LDP Bindings Information
o Displaying MPLS Interfaces

• Layer 3 Virtual Private Networks
o Service Provider Solution

o Terms to Understand
o VPN Routing Infrastructure
o Route Distinguisher Implementation
o VPN Packet Flow
o Configuration Steps
o VRF Configuration
o VRF Interface Configuration
o Static Route Configuration
o BGP Configuration
o Displaying Configuration Information
o Displaying Routing Information
o Displaying IGP Information
o Displaying BGP Information
o Displaying MPLS Information