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Installing, Configuring, Monitoring and Troubleshooting Cisco Catalyst SD-WAN for Government (SDWAN-GOV) V4.0

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Course Duration
5 days

Course Price
$4,395.00
43 CLCs

Methods of Delivery
In-Person ILT
Virtual ILT
Onsite ILT

About this Class

This five-day hands-on instructor-led course offers comprehensive training on Cisco Catalyst (Viptela) SD-WAN, focusing on the 20.12 release for SD-WAN and the 17.12 release for IOS-XE, explicitly designed for Federal and State Government Network professionals. Throughout the course, participants will gain hands-on experience with the administration and configuration of SD-WAN Controllers and Cisco IOS-XE devices.

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How you will benefit

This class will help you:

- Gain the knowledge and skills to ensure the reliability, security, and efficiency of networks using Cisco Meraki MX Security Appliances, MS and Cisco Catalyst switches, and Meraki Wireless Networks.
- Understand how to design, implement, manage, and troubleshoot networks effectively

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The course is highly recommended for

- Network Engineers
- System Administrators
- IT Professionals in Government Agencies
- Technical Support Staff
- Cisco Certified Professionals

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Objectives

After taking this course, you should be able to:

- Catalyst SD-WAN for Government Overview
- Cisco SD-WAN Controllers for Government
- Catalyst SD-WAN Platforms in Government Environments
- Cisco SD-WAN WAN Edge Deployments for Government
- Configuring SD-WAN Manager
- for Government
- SD-WAN Software Upgrades in Government Environments
- SD-WAN OMP/Fabric for Government
- SD-WAN QoS / QoE in Government Networks
- SD-WAN Security for Government Networks
- Creating and Applying SD-WAN Templates and Configuration Groups for Government
- SD-WAN IPv6 Integration in the Government Environment
- SD-WAN Local Policy for Government
- SD-WAN Central Policies for Government
- Monitoring & Troubleshooting SD-WAN Government Networks

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Course Outline

Module 0: Introductions

Module 1: Catalyst SD-WAN for Government Overview

- Module Topics
- Lesson 1: SD-WAN Fed-Ramp Overview
- Module Summary

Module 2: Cisco SD-WAN Controllers for Government

- Module Topics
- Lesson 1: Cisco SD-WAN Controller Architecture for Government
- Lesson 2: Catalyst SD-WAN Portal for Government
- Lesson 3: AWS GOV Cloud Controller Deployment
- Lesson 4: On-Prem Controller Deployment in Government
- Lesson 5: Create Manager VM Instance on ESXi or KVM
- Lesson 6: Initial SD-WAN Manager for Gov Setup
- Lesson 7: Create Validator (vBond) VM Instance on ESXi
- Lesson 8: Create Controller (vSmart) VM Instance on ESXi
- Lesson 9: Add Controllers to Manager in Government
- Lesson 10: Enterprise CA Configuration for Government
- Lesson 11: Controller High Availability
- Lesson 12: Verify Control Plane in Government
- Module Summary

Module 3: Catalyst SD-WAN Platforms in Government Environments

- Module Topics
- Lesson 1: SD-WAN Platform Overview
- Lesson 2: SD-WAN cEdge ISR 1k Platforms
- Lesson 3: Cisco ISR 4000 Series Router Platforms

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Course Outline

Cont. Module 3

- Lesson 4: Cisco ASR 1000 Routing Platforms
- Lesson 5: Catalyst 8000 Series Router Platforms
- Lesson 6: Catalyst 8500 Series Router Platforms
- Lesson 7: Catalyst 8300 Series Router Platforms
- Lesson 8: Catalyst 8200 Series Router Platforms
- Lesson 9: Catalyst 4K/8K SD-WAN Supported Modules
- Lesson 10: Catalyst 8000v Series Virtual Routers
- Lesson 11: Cellular Gateways for SD-WAN
- Lesson 12: SD-WAN WAN Edge High Availability
- Module Summary

Module 4: Cisco SD-WAN WAN Edge Deployments for Government

- Module Topics
- Lesson 1: Adding Devices to the PNP Portal
- Lesson 2: Device Initial Bootup and Image Selection
- Lesson 3: SD-WAN Zero Touch Provisioning for Gov
- Lesson 4: SD-WAN Quick Connect in Government
- Lesson 5: Manually Provision SD-WAN IOS-XE
- Lesson 6: Verifying WAN Edge Configuration
- Module Summary

Module 5: Configuring SD-WAN Manager for Government

- Module Topics
- Lesson 1: Dashboard Overview and Changes
- Lesson 2: SD-WAN Manager Monitoring Dashboard

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Course Outline

Cont. Module 5

- Lesson 3: SD-WAN Manager Configuration for Government
- Lesson 4: SD-WAN Manager Tools for Government
- Lesson 5: SD-WAN Manager Maintenance
- Lesson 6: Administrative Settings for Government
- Lesson 7: Resource Groups In Government Environments
- Lesson 8: Users and Groups For Government
- Lesson 9: RADIUS and TACACS in Government Environments
- Lesson 10: Single Sign-on / IDP Management
- Lesson 11: License Management for Government
- Module Summary

Module 6: SD-WAN Software Upgrades in Government Environments

- Module Topics
- Lesson 1: Upgrading the SD-WAN Environment for Government
- Lesson 2: Upgrade SD-WAN Controllers in Government
- Lesson 3: Software Upgrade Workflow in Government
- Module Summary

Module 7: SD-WAN OMP/Fabric for Government

- Module Topics
- Lesson 1: SD-WAN Fabric Overview and Terminology
- Lesson 2: SD-WAN Segmentation for Government
- Lesson 3: OMP / TLOCs / Routes
- Lesson 4: SD-WAN BFD in Government
- Lesson 5: On-Demand Tunnels
- Lesson 6: SD-WAN Fabric Verification
- Module Summary

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Course Outline

Module 8: SD-WAN QoS / QoE in Government Networks

- Module Topics
- Lesson 1: QoE / QoS Challenges in Government Networks
- Lesson 2: Quality of Experience (QoE) / Quality of Service (QoS)
- Lesson 3: QoS Configuration Workflow for Government
- Lesson 4: Per-Tunnel QoS
- Lesson 5: Adaptive QoS for Government
- Lesson 6: Per VPN QoS
- Lesson 7: Application Quality of Experience (AppQoE)
- Lesson 8: Forward Error Correction (FEC) / Packet Duplication
- Lesson 9: TCP Optimization
- Lesson 10: Data Redundancy Elimination (DRE) / Lempel-Ziv Compression (LZ)
- Lesson 11: SSL Optimization in Government Environments
- Lesson 12: Software-Defined Application Visibility and Control (SD-AVC)
- Module Summary

Module 9: SD-WAN Security for Government Networks

- Module Topics
- Lesson 1: Security Overview for Government
- Lesson 2: Security Network Analytics (Stealthwatch) Integration
- Lesson 3: SD-WAN Fabric Security
- Lesson 4: IPSec Key Exchanges in SD-WAN Fabric
- Lesson 5: SD-WAN Security Options
- Lesson 6: SD-WAN Integrated Security
- Lesson 7: SD-WAN Enterprise Firewall
- Lesson 8: SD-WAN Identity Firewall

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Course Outline

Cont. Module 9

- Lesson 9: SD-WAN Intrusion Prevention System
- Lesson 10: URL Filtering
- Lesson 11: Anti-Malware Protection / Threatgrid
- Lesson 12: TLS/SSL Decryption
- Lesson 13: Unified Security Policy
- Module Summary

Module 10: Creating and Applying SD-WAN Templates and Configuration Groups for Government

- Module Topics
- Lesson 1: Template Overview for Government
- Lesson 2: Feature Templates
- Lesson 3: Device Templates for Federal Use
- Lesson 4: CLI Templates in Government
- Lesson 5: Create Device Templates using Feature Templates
- Lesson 6: Attaching Devices to Template
- Lesson 7: Configuration Groups Overview
- Lesson 8: Creating Configuration Groups
- Lesson 9: Deploy Configuration Group Workflow
- Lesson 10: View/Edit Configuration Groups
- Module Summary

Module 11: SD-WAN IPv6 Integration in the Government Environment

- Module Topics
- Lesson 1: SD-WAN IPv6 Overview and Terminology
- Module Summary

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Course Outline

Module 12: SD-WAN Local Policy for Government

- Module Topics
- Lesson 1: Local Policy Overview
- Lesson 2: Local Policy Lists for Government
- Lesson 3: Local Data Policies for Government
- Lesson 4: Local Data Policy QoS Configuration
- Lesson 5: Local Data Policy Access Control Lists
- Lesson 6: Localized Control Policy for Government
- Lesson 7: Save and Apply Local Policy
- Module Summary

Module 13: SD-WAN Central Policies for Government

- Module Topics
- Lesson 1: Central Policy Overview for Government
- Lesson 2: Policy Construction in Government
- Lesson 3: Central Control Policy for Government
- Lesson 4: Control Policy - Dis-contiguous Data Planes
- Lesson 5: Control Policy - Data Center Priority
- Lesson 6: Control Policy - VPN Topologies
- Lesson 7: Control Policy - VPN Membership Policy
- Lesson 8: Control Policy - Application-Aware Routing
- Lesson 9: Control Policy - Service Chaining
- Lesson 10: Central Data Policies
- Lesson 11: Central Data Policies - Use Cases
- Lesson 12: Central Data Policies - Cflowd
- Lesson 13: Creating Centralized Policies in Government
- Module Summary

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Course Outline

Module 14: Monitoring & Troubleshooting SD-WAN Government Networks

- Module Topics
- Lesson 1: SD-WAN Troubleshooting Overview
- Lesson 2: SD-WAN Technical Support Access
- Lesson 3: Controller Failure Scenarios in Government
- Lesson 4: Troubleshooting Controllers
- Lesson 5: Troubleshooting Control Connections
- Lesson 6: Typical Control Connection Issues
- Lesson 7: Troubleshooting Data Plane for Government
- Lesson 8: Troubleshooting Routing in Government
- Lesson 9: Centralized Policies Troubleshooting
- Lesson 10: Packet Forwarding Troubleshooting
- Lesson 11: Device Configuration and Upgrades Failure
- Lesson 12: vDiagnose - Diagnostic Tool for SD-WAN
- Lesson 13: Troubleshooting cEdge for Government
- Lesson 14: Troubleshooting using SD-WAN Manager
- Lesson 15: Device Troubleshooting in Government
- Lesson 16: Using the GUI for cli show command Under Troubleshooting > Real-time
- Lesson 17: CLI Troubleshooting for Government
- Lesson 18: Network Wide Path Insights
- Lesson 19: NetFlow Collectors for Government
- Lesson 20: SNMP Overview in Government
- Lesson 21: SD-WAN Logs in Government
- Lesson 22: SD-WAN Reporting
- Lesson 23: SD-WAN Manager APIs & Programmability
- Module Summary