

# Deploying and Administering Cisco's Digital Network Architecture (DNA) and Intelligent WAN - DNADDC

## Course Outline

### Module 1: Cisco's Digital Network Architecture (DNA)

- Overview
- Benefits
- Guiding Principles
- Main Components and Functions
- DNA Automation and Management: APIC-EM
- DNA Virtualization: NFV and Cisco IOS XE
- DNA Analytics: CMX
- DNA Security: TrustSec, ISE, StealthWatch

### Module 2: Intelligent WAN (iWAN) General Overview and Main Components

- Today's branch office challenges
- iWAN as a solution for branch office connectivity
- iWAN's building blocks
- Transport Independent Design
- Intelligent Path Control
- Application Performance Optimization
- Secure Connectivity
- iWAN Management

### Module 3: Implementing Transport Independent Design

- IP Connectivity as transport independent option
- MPLS Connectivity as transport independent option
- IP-MPLS connectivity options for headquarter and branch
- GRE Point to Point and Multipoint tunnels
- DMVPN overview
- DMVPN Phases
- Front Door VRF
- Unicast traffic over DMVPN
- Multicast traffic over DMVPN
- DMVPN sample configurations

### Module 4: Implementing Intelligent Path Control with Performance Routing (PfR)

- Performance routing overview
- Device Components and Roles

- Hub Master Controller
- Hub Border Routers
- Transit Master Controller
- Transit Border Router
- Branch Routers
- Differences between PfRv2 and PfRv3
- PfR Policies
- Enterprise Domain Provisioning
- Topology Discovery
- Collecting Performance Metrics
- Path Enforcement
- Enterprise Deployment
- Monitoring (site prefixes, traffic classes, load balance)

## Module 5: Implementing AVC for Application Visibility and Adding Hierarchical QoS (HQoS)

- Collecting Performance Metrics
- Collecting Traffic Statistics
- Application Response Time
- Media Monitoring
- Netflow and IPFIX
- Adding Hierarchical Quality of Service (HQoS)

## Module 6: Cisco Wide-Area Application Services

- Introducing Cisco WAAS
- Identify Platforms and deployment options
- Implementing Cisco Central Management
- Installing and Configuring the Virtual Environment
- Installing and Configuring Cisco vWAAS
- Configuring Application Traffic Policies
- Configuring Cisco vWAAS Virtualization

## Module 7: Cisco APPNAV

- APPNAV overview
- Installing APPNAV Controllers
- APPNAV-XE Controller Configuration
- Monitoring the APPNAV Controller

## Module 8: IWAN Secure Connectivity

- Secure Connectivity Overview
- Securing the WAN Transport
- Secure Direct Internet Access
- Full Services Direct Internet Access
- Direct Internet Access Use Case Scenarios
- Cisco Trustsec in Branch
- Secure Connectivity IWAN Customer Scenario

## Module 9: Cisco APIC-EM for Management and Automation

- APIC-EM overview
- APIC-EM features and benefits
- APIC-EM supported platforms and software release
- APIC-EM licensing Model
- APIC-EM Hardware&Software requirements (for installation – virtual appliance)
- APIC-EM GUI and navigation
- Main operations

## Module 10: Implementing UCS-E and Cloud Connectors

- UCS-E
- Cisco Cloud Connectors
- Third-Party Cloud Connectors
- Cisco Akamai Solutions
- UC/CUBE