Course Outline of Cisco SD-WAN Umbrella Integration (SDWUMB)

Day – 1
Module 1: Cisco SD-WAN Introduction

- High-level Cisco SD-WAN Deployment models
- Application level SD-WAN solution
- Cisco SDWAN plan for HA and Scalability
- Cisco SD-WAN solution components: vManage NMS, vSmart Controller, vBond Orchestrator
- Edge Routers (cEdge & vEdge)
- Cloud Based Deployment vs On-Premises Deployment

Module 2: Zero Touch Provisioning
- Overview
- User Input Required for the ZTP Automatic Authentication Process
- Authentication between the vBond Orchestrator and WAN Edges
- Authentication between the Edge Routers and the vManage NMS
- Authentication between the vSmart Controller and the Edge Routers

Module 3: Cisco SD-WAN Solution

- Overlay Management Protocol (OMP)
- Cisco SDWAN Circuit Aggregation Capabilities
- Secure Connectivity in Cisco SD-WAN
- Performance Tracking Mechanisms
- Application Discovery
- Dynamic Path Selection
- Performance Based Routing
- Direct Internet Access
- Cisco SD-WAN In-built Security features: App Aware FW, Talos IPS, URL Filtering, Umbrella Integration & Advanced Malware Protection
- Dynamic Cloud Access: Cloud On-Ramp for SaaS and IaaS (AWS, Azure & GPC)

Day – 2
Module 4: Deeper Insight into Cisco SD-WAN Security

- Designing Security Requirements within Cisco SD-WAN
- DIA Security
- Direct Cloud Access Security
- Guest User Security

- Compliance Requirements
- Security Implementation at the Branch Site
- Implementing Zone Based Firewalls on Cisco WAN Edge
- Implementing UTD on Cisco WAN Edge
- Configuring URL Filtering
- Configuring Snort IPS
- Best Practices for UTD setup (Based on production deployment experiences)
- Implementing Advanced Malware Protection
- Configuring AMP
- Overview of integration with Threat Grid

Module 5: Designing and Implementing DNS Security

- Pre-requisite check before integrating Umbrella with Cisco SD-WAN
- Making sure you have the correct licensing
- Platform support check
- Internet Connectivity check
- Walking through the Umbrella Dashboard
- Dashboard Overview
- DNS Policy GUI Overview
- Firewall Policy GUI Overview
- Web Policy GUI Overview
- Umbrella AD/SAML Integration Overview (optional)
- Integrating Cisco Umbrella for DNS Security
- Umbrella API Integration
- Configuring the DNS Encryption Policy
- Excluding the local domains
- Configuring the Security Policy in vManage
- Implementing the policy at the DIA Sites
- Verification
- Checking the logs on Umbrella Dashboard
- Checking the vManage Security Dashboard

Day – 3

Module 6: Cisco SD-WAN and Cisco Umbrella SIG Integration

- SIG Integration Overview
- Configuring Cisco vManage Templates for SIG Tunnel Creation
- Using the pre-configured Feature Templates in vManage 20.X
- Adding the SD-WAN Routers and Sites in Umbrella Identities
- Validate that the routers show up from the Umbrella Dashboard

- Designing and Configuring Policy for SIG Redirection
- Setting up the vSmart Centralized Policies for SIG Redirection on DIA Traffic
- Verification
- Checking the logs on Umbrella Dashboard
- Checking the vManage Security Dashboard

Module 7: Cisco SD-WAN and Cisco Umbrella Cloud Firewall Integration

- Umbrella Cloud Firewall Integration Overview
- Configuring Cisco vManage Templates for Firewall Tunnel Creation
- Using the pre-configured Feature Templates in vManage 20.X
- Adding the SD-WAN Routers and Sites in Umbrella Identities
- Validate that the routers show up from the Umbrella Dashboard
- Designing and Configuring Policy for Firewall Redirection
- Setting up the vSmart Centralized Policies for Umbrella FW Redirection on DIA Traffic
- Verification
- Checking the logs on Umbrella Dashboard
- Checking the vManage Security Dashboard

Module 8: Troubleshooting Umbrella Integration

- Troubleshooting DNS Security
- API Integration not working
- DNS for local domain failing
- No redirection to Cisco Umbrella for external domains
- Troubleshooting SIG and Firewall
- Making sure the IPSec Tunnels to Umbrella are operational
- Troubleshooting the vManage policies for redirection
- Load balancing using vManage policies
- Reviewing logs in Umbrella
- Checking Alarms and Notifications
- Checking Alarms on vManage
- Checking Alarms on Cisco Umbrella