Implementing Cisco SD-WAN Solutions v1.1 (300-415)

Exam Description: Implementing Cisco SD-WAN Solutions v1.1 (ENSDWI 300-415) is a 90-minute exam associated with the CCNP Enterprise Certification. This exam tests a candidate's knowledge of Cisco's SD-WAN solution including SD-WAN architecture, controller deployment, WAN Edge router deployment, policies, security, quality of service, multicast, and management and operations. The course, Implementing Cisco SD-WAN Solutions, helps candidates to prepare for this exam.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. To better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

20%	**1.0**	**Architecture**
	1.1	Describe Cisco SD-WAN architecture and components

       1.1.a   Orchestration plane (vBond, NAT)
       1.1.b   Management plane (vManage)
       1.1.c   Control plane (vSmart, OMP)
       1.1.d   Data plane (WAN Edge)
               1.1.d (i)   TLOC
               1.1.d (ii)   IPsec and GRE
               1.1.d (iii) vRoute
               1.1.d (iv) BFD

    1.2   Describe Cisco SD-WAN Edge platforms and capabilities

    1.3   Describe Cisco SD-WAN Cloud OnRamp
       1.3.a   SaaS
       1.3.b   IaaS
       1.3.c   Colocation

15%	**2.0**	**Controller Deployment**
	2.1	Describe controller cloud deployment
	2.2	Describe controller on-premises deployment

       2.2.a   Hosting platform (KVM and Hypervisor)
       2.2.b   Installing controllers
       2.2.c   Scalability and redundancy

    2.3   Configure certificates and device lists

    2.4   Troubleshoot control plane connectivity between controllers

20%	**3.0**	**Router Deployment**

3.1 Describe WAN Edge deployment
  3.1.a On-boarding
  3.1.b Orchestration with zero-touch provisioning and plug-and-play
  3.1.c Data center and regional hub deployments

3.2 Configure Cisco SD-WAN data plane
  3.2.a Circuit termination and TLOC-extension
  3.2.b Dynamic tunnels
  3.2.c Underlay-overlay connectivity

3.3 Configure OMP

3.4 Configure TLOCs

3.5 Configure CLI and vManage feature configuration templates
  3.5.a VRRP
  3.5.b OSPF
  3.5.c BGP
  3.5.d EIGRP

3.6 Describe multicast support in Cisco SD-WAN

20% 4.0 Policies
4.1 Configure control policies
4.2 Configure data policies
4.3 Configure end-to-end segmentation
  4.3.a VPN segmentation
  4.3.b Topologies

4.4 Configure Cisco SD-WAN application-aware routing

4.5 Configure direct Internet access

15% 5.0 Security and Quality of Service
5.1 Configure service insertion
5.2 Describe Cisco SD-WAN security features
  5.2.a. Application-aware enterprise firewall
  5.2.b IPS
  5.2.c URL filtering
  5.2.d AMP
  5.2.e SSL and TLS proxy

5.3 Describe Cloud security integration
  5.3.a. DNS security
  5.3.b. Secure Internet Gateway (SIG)

5.4 Configure QoS treatment on WAN Edge routers

       5.4.a   Scheduling
       5.4.b   Queuing
       5.4.c   Shaping
       5.4.d   Policing
       5.4.e   Marking
       5.4.f   Per-tunnel and adaptive QoS

10%   6.0   Management and Operations
    6.1   Describe authentication, monitoring, and reporting from vManage
    6.2   Configure authentication, monitoring, and reporting
    6.3   Describe REST API monitoring
    6.4   Describe software image management from vManage