## **CCIE** ® Security v3.0 Written Exam Topics

The topic areas listed are general guidelines for the type of content that is likely to appear on the exam. Please note, however, that other relevant or related topic areas may also appear.

The CCIE Security written exam for the v3.0 curriculum is a two-hour, multiple choice test with 100 questions covering the areas of skills and competency needed by a Security Engineer to implement, deploy, configure, maintain, and troubleshoot Cisco Network Security solutions and designs. Topics include Cisco network security devices, appliances, protocols, firewalls, VPNs, intrusion prevention devices, policy management, and best practices for implementing a secure network.

All exam materials are provided and no outside reference materials are allowed.

## **Exam Sections and Sub-task Objectives**

1.00	General Networking	$\sqrt{}$
1.10	Networking Basics (IPv4 and IPv6)	
1.20	OSI Layers	
1.30	TCP/IP Protocols	
1.40	LAN Switching (e.g. VTP, VLANs, Spanning Tree, Trunking)	
1.50	Routing Protocols (RIP, EIGRP, OSPF, and BGP) (IPv4 only)	
1.60	Tunneling Protocols (GRE, NHRP)	
1.70	IP Multicast	
2.00	Security Protocols, Ciphers, Hashes, and Encryption	
2.01	Rivest, Shamir and Adleman (RSA)	
2.02	Rivest Cipher 4 (RC4)	
2.03	Message Digest 5 (MD5)	
2.04	Secure Hash Algorithm (SHA)	
2.05	Data Encryption Standard (DES)	
2.06	Triple DES (3DES)	
2.07	Advanced Encryption Standard (AES)	
2.08	IP Security (IPsec)	
2.09	Internet Security Association and Key Management Protocol (ISAKMP)	
2.10	Internet Key Exchange (IKE)	
2.11	Group Domain of Interpretation (GDOI)	
2.12	Authentication Header (AH)	

2.13	Encapsulating Security Payload (ESP)	
2.14	Certificate Enrollment Protocol (CEP)	
2.15	Transport Layer Security (TLS)	
2.16	Secure Socket Layer (SSL)	
2.17	Secure Shell (SSH)	
2.18	Remote Authentication Dial In User Service (RADIUS)	
2.19	Terminal Access Controller Access-Control System Plus (TACACS+)	
2.20	Lightweight Directory Access Protocol (LDAP)	
2.21	EAP Methods (e.g. EAP-MD5, EAP-TLS, EAP-TTLS, EAP-FAST, PEAP, LEAP)	
3.00	Application Protocols	
3.01	Hypertext Transfer Protocol (HTTP)	
3.02	Hypertext Transfer Protocol Secure (HTTPS)	
3.03	Simple Mail Transfer Protocol (SMTP)	
3.04	Dynamic Host Configuration Protocol (DHCP)	
3.05	Domain Name System (DNS)	
3.06	File Transfer Protocol (FTP)	
3.07	Trivial File Transfer Protocol (TFTP)	
3.08	Network Time Protocol (NTP)	
3.09	Simple Network Management Protocol (SNMP)	
3.10	Syslog	
4.00	Security Technologies	
4.01	Packet Filtering	
4.02	Content Filtering	
4.03	URL Filtering	
4.04	Authentication Technologies	
4.05	Authorization Technologies	
4.06	Proxy Authentication	
4.07	Public Key Infrastructure (PKI)	
4.08	IPsec VPN	
4.09	SSL VPN	
4.10		

1.11   Croup Encrypted Transport VPN (GET VPN)			
1.13   Dist Intrusion Pevention Systems	4.11	Group Encrypted Transport VPN (GET VPN)	
A-1.1   Event Certelation	4.12	Network Intrusion Prevention Systems	
A.15   Network Admission Control (NAC)	4.13	Host Intrusion Prevention Systems	
March   Moz.   Moz.	4.14	Event Correlation	
A.17 Endpoint Security  1.18 Network Address Translation (NAT)  1.19 Cisco Security Appliances and Applications  1.20 Cisco Security Appliances and Applications  1.20 Cisco Intrusion Prevention System (IPS)  1.20 Cisco Intrusion Prevention System (IPS)  1.20 Cisco IOS Firewall (CBAC, Zone-Based, PAM)  1.20 Cisco IOS Firewall (CBAC, Zone-Based, PAM)  1.20 Cisco IOS IPS  1.20 Cisco IOS IPS  1.20 Cisco IOS IPS  1.20 Cisco IOS IPS  1.21 Cisco AnyConnect VPN Client  1.21 Cisco Security Menitoring Appliance  1.22 Cisco Secure Desiston (CSA)  1.23 Cisco Security Agent (CSA)  1.24 Cisco Security Agent (CSA)  1.25 Cisco Security Monitoring, Analysis and Response System (MARS)  1.27 Cisco Catalyst 6500 Series Security Services Modules (I WSM, IDSM-2, VPNSPA)  1.28 Cisco Security Manager (ASDM)  1.29 Cisco Router & Security Device Manager (ASDM)  1.20 Cisco Security Manager (CSM)  1.21 Cisco Security Manager (CSM)  1.22 Cisco Router & Security Device Manager (ASDM)  1.23 Cisco Security Manager (CSDM)  1.24 Cisco Security Manager (CSDM)  1.25 Cisco Security Manager (CSDM)	4.15	Network Admission Control (NAC)	
A.18   Network Address Translation (NAT)	4.16	802.1x	
5.00 Cisco Security Appliances and Applications  5.01 Cisco Adaptive Security Appliance (ASA) Firewall  5.02 Cisco Intrusion Prevention System (IPS)  5.03 Cisco IOS Firewall (CBAC, Zone-Based, PAM)  5.04 Cisco IOS Firewall (CBAC, Zone-Based, PAM)  5.05 Cisco IOS IPS  5.06 Cisco IOS IPS  5.07 Cisco IOS IPS  5.08 Cisco IOS IPS  5.09 Cisco IOS IPS  5.09 Cisco St. VPN  5.09 Cisco AnyConnect VPN Client  5.10 Cisco VPN Client  5.11 Cisco VPN Client  5.12 Cisco Secure Desktop (CSD)  5.13 Cisco Secure Desktop (CSD)  5.14 Cisco Secure ACS Solution Engine  5.15 Cisco Secure ACS Solution Engine  5.16 Cisco Security Monitoring, Analysis and Response System (MARS)  5.17 Cisco Catalyst 6500 Series Security Services Modules (FWSM, IDSM-2, VPNSPA)  6.00 Cisco Router & Security Device Manager (ASDM)  6.01 Cisco Router & Security Device Manager (SDM)  6.02 Cisco Router & Security Device Manager (SDM)  6.03 Cisco Security Management	4.17	Endpoint Security	
5.01 Cisco Adaptive Security Appliance (ASA) Firewall 5.02 Cisco Intrusion Prevention System (IPS) 5.03 Cisco IOS Firewall (CBAC, Zone-Based, PAM) 5.04 Cisco IOS IPS 5.05 Cisco IOS BAA 5.06 Cisco IOS IPS 5.07 Cisco IOS AAA 5.07 Cisco IOS IPSec VPN 5.08 Cisco SSL VPN 5.09 Cisco SSL VPN 5.09 Cisco AnyConnect VPN Client 5.10 Cisco VPN Client 5.11 Cisco VPN Client 5.12 Cisco Secure Desktop (CSD) 5.13 Cisco Secure Desktop (CSD) 5.14 Cisco Security Agent (CSA) 5.15 Cisco Secure ACS For Windows 5.16 Cisco Secure ACS Solution Engine 5.17 Cisco Catalyst 6500 Series Security Services Modules (FWSM, IDSM-2, VPNSPA) 6.00 Cisco Adaptive Security Device Manager (ASDM) 6.01 Cisco Router & Scurity Device Manager (SDM) 6.02 Cisco Security Manager (CSM)	4.18	Network Address Translation (NAT)	
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	6.02	Cisco Router & Security Device Manager (SDM)	
6.04 Cisco IPS Device Manager (IDM)	6.03	Cisco Security Manager (CSM)	
	6.04	Cisco IPS Device Manager (IDM)	

6.05	Cisco IPS Manager Express (IME)	
6.06	Cisco Configuration Professional (CCP)	
7.00	Cisco Security General	
7.01	Router Security Features (e.g. ACL, NBAR, MQC, CAR, FPM, uRPF, CoPP, CPPr, MPP)	
7.02	Switch Security Features(e.g. IP & MAC Spoofing, MAC Address Controls, Port Security, DHCP Snooping, DNS Spoofing, ARP Spoofing, BPDU/Root Guard, PVLAN)	
7.03	NetFlow	
7.04	Wireless Security	
7.05	IPv6 Security	
8.00	Security Solutions	
8.01	Network Attack Mitigation	
8.02	Virus and Worms Outbreaks	
8.03	DoS/DDoS Attacks	
8.04	Web Server & Web Application Security	
8.05	DNS Security	
9.00	Security General	
9.01	Security Policy	
9.02	Information Security Standards (e.g. ISO/IEC 27001, ISO/IEC 27002)	
9.03	Standards Bodies (e.g. ISO, IEC, ITU, ISOC, IETF, IAB, IANA, ICANN)	
9.04	Industry/Regulatory Compliance (e.g. SOX, HIPAA, GLBA, PCI DSS, FISMA)	
9.05	Common RFC/BCP (e.g. RFC1918, RFC3330, RFC2827/BCP38, RFC3704/BCP84, RFC2401)	
9.06	Security Audit & Validation	
9.07	Risk Assessment	
9.08	Change Management Process	
9.09	Incident Response Framework	
9.10	Computer Security Forensics	