

## *Secure and Optimized Converged Networks*

### *Recommended reading for written exam*

- VPN : What is a VPN?
- IPsec VPN :Confidentiality , Integrity , Autentication, Tunneling , Cryptosystem, Hashing, Key Management, Certificate of Authority Service
- IPsec security protocols (AH & ESP), Internet Key Exchange, ISAKMP, Transform set, IPSEC SA, Crypto map
- GRE, GRE VPN, Secure GRE Tunnels
- Basic Multiprotocol Label Switching (MPLS) Features
- Application of MPLS
- MPLS Operation
- CEF Switching
- MPLS Architecture ( Control Plane, Data Plane)
- Label Switch Routers
- MPLS labels, Label Format
- Label Distribution and Advertisement
- Overlay VPNs & Peer-to-peer VPNs
- MPLS VPN Architecture
- MPLS VPN: Route Distinguishers, VPNV4 address
- MPLS VPN: Route Targets
- MPLS VPN Routing
- Seven Steps to Hacking a Network:
  - Step 1: Footprint Analysis
  - Step 2: Enumerate Information
  - Step 3: Manipulate Users to Gain Access
  - Step 4: Escalate Privileges
  - Step 5: Gather Additional Passwords and Secrets
  - Step 6: Install Back Doors and Port Redirectors

## **Step 7: Leverage the Compromised System**

- **Best Practices to Defeat Hackers**
- **Mitigating Network Attacks**
- **Types of Network Attacks**
- **Reconnaissance Attacks**
- **Packet Sniffers**
- **Port Scans and Ping Sweeps**
- **Access Attacks and Mitigation**
- **Trust Exploitation**
- **DoS and DDoS Attacks and Mitigation**
- **IP Spoofing in DoS and DDoS**
- **Network Attacks Using Intelligence**
- **End Station Vulnerabilities: Worm, Virus, and Trojan Horses**
- **Worm Attack, Mitigation and Response**
- **Application Layer Attacks and Mitigation**
- **Management Protocols and Vulnerabilities**
- **Management Protocol Best Practices**
- **Using Syslog Logging for Network Security**
- **Understanding NTP**
- **AAA Protocols: RADIUS and TACACS+**
- **Firewall Technologies (Statful packet filtering, Packet filtering, Application Layer Gateway)**
- **DMZ**
- **Types of IDS and IPS Systems**
- **Network-Based and Host-Based IPS**
- **Signature-Based IDS and IPS**
- **Policy-Based IDS and IPS**
- **Anomaly-Based IDS and IPS**
- **Honeypot-Based IDS and IPS**
- **IDS and IPS Signatures**