

# **Palo Alto ( PCNSA )**

## **Palo Alto Network Certified Network Security Administrator**



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## **Paloalto Intro and Deployment Options**

1. Palo Alto Firewalls overview
2. Deployment Options
3. Layer 2 deployment
4. Layer 3 deployment
5. Layer 2 deployment and spanning tree
6. Layer 2 Features and Limitations with demonstration
7. Virtual Wire deployment
8. Virtual Wire IP Classify
9. Tap Mode deployment
10. Initial Configuration

## **Basic Administrative Tasks**

1. Basic Settings
2. Changes and Committing changes
3. Local Administrator Account with External Authentication
4. External Authentication Using Radius Server
5. System software Upgrade / Downgrade, global protect client install
6. Dynamic Updates
7. Interface Management Profile

## **Threat Prevention**

1. Security Zones and Traffic Processing
2. Packet Flow
3. Rules based on application using App-ID
4. Security Policy Rules for applications not running on application default ports
5. Application Override Policies - Custom Applications
6. URL Filtering Rules and Options
7. Custom URL Category
8. Using Address Objects
9. Using Service Objects
10. Using Dynamic Block Lists
11. Using Tags



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## User ID integration

User ID integration

Installing User ID agent on AD

Configure the firewall to use user ID agent

Configuring integrated User ID agent

Group to User ID mapping

Making decisions based on user group membership example

Identifying Users using Captive Portal Redirect Mode

User ID mapping using CaptivePortal in Transparent Mode

Captive Portal using Browser Challenge SSO example

Relaying UserID information using XML example

## Threat Prevention

AntiVirus configuration

Anti Spyware and DNS Sinkholing

Creating custom Anti-Spyware signatures

Configuring Vulnerability Protection and Custom Signatures

File Policies

Configuring Wildfire

Wildfire Portal

Configuring Data Filtering - Data Leakage Prevention

Data leakage demo - Credit Card Numbers Detection and Blocking

Denial Of Service Protection

Implementing Zone and Host Denial Of Service Protection

## SSL Decryption

Certificates, Certificate of Authorities, and Decryption Concepts

SSL Forward Proxy - Trust Certificate - Local Cert on PaloAlto

SSL Forward Proxy - Untrust Certificate - Local Cert on PaloAlto

SSL Forward Proxy Using an Internal PKI Subordinate CA

SSL Forward Proxy Blocking Threats in Encrypted Traffic - Den

SSL Inbound Inspection



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## Network Address Translation

Understanding Dynamic NAT and port  
 Dynamic NAT and port configuration examples  
 Dynamic NAT and port Egress Interface Multiple ISP consideration  
 What is the difference between Dynamic IP and Dynamic IP and port with examples  
 Static NAT concepts and example  
 Static NAT with Port Translation Use Case and scenario example  
 Destination NAT and Destination NAT with Port Address Translation  
 UTurn NAT with port translation  
 Source and Destination NAT  
 New in Version 8.1 Dynamic Destination NAT

## Basic and Intermediate Networking

DHCP Services  
 Default Route  
 OSPF Routing  
 BGP Routing  
 BGP Advertise  
 Using Multiple Virtual Routers  
 Multiple Virtual Routers NAT and Security Policy Example  
 Multiple ISP Failover Scenario using BGP  
 Multiple ISP Failover using floating Static Route  
 Multiple ISP Failover using Policy Based Forwarding  
 Multiple ISP Load Sharing using Policy Based Forwarding

## High Availability

High Availability Overview  
 Active Passive Configuration Configuration Example  
 High Availability Active / Passive different failure scenarios  
 HA1 HA2 heartbeat  
 High Availability Active / Passive HA1-backup  
 HA2-backup configuration  
 High Availabilit active / passive link and path monitoring, HA operations  
 Active Active High availability intro, Floating IP  
 Active Active with Floating IP configuration example



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## IPv6 Config

Ipv6 structure, addressing, unicast (link local, site local, global),  
 multicast  
 Ipv6 neighbor discovery, icmpv6, dhcpv6  
 Ipv6 Stateless, Statefull DHCP, M Flag O Flag concepts  
 Ipv6 basic firewall configuration example  
 Ipv6 Network Prefix Translation NPTv6 configuration example  
 Ipv6 NAT64 example connecting Ipv6 only network to Ipv4 Internet  
 example  
 Ipv6 NAT64 example connecting Ipv4 only network to Ipv6 only network  
 Ipv6 dhcpv6 relay on PaloAlto firewall example  
 Ipv6 issues related to Windows and policy based on Ipv6 addresses,  
 example

## VPN IPSEC configuration details

VPN IPSEC L2L intro and configuration steps  
 VPN IPSEC L2L PaloAlto to PaloAlto Example  
 VPN IPSEC Site To Site Hub Spoke, Dynamic IP address example  
 VPN IPSEC L2L Paloalto to Cisco ASA configuration example  
 VPN IPSEC L2L Paloalto to Cisco ASA with Dynamic IP address  
 IPsec Quick mode negotiation understanding  
 IKE main mode more details, explanation  
 Understanding IPSEC Quick mode with PFS  
 IKE security policies required and NAT-T explanation / example  
 IKEv1 main mode versus aggressive mode, understand the difference  
 IKEv2 intro and differences between IKEv2 and IKEv1  
 IKEv2 Auth phase, IPsec associations, differences between  
 Ikev1 and Ikev2



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## Global Protect

Global Protect Setup example

Getting a free publicly trusted ssl certificate to test Global Protect

Setting up global protect for on-demand mode, discover agent settings

Dual Factor Authentication Using Open Source Solution PrivacyIdea demo

Joining a windows PC to AWS windows domain - vpn tunnel to AWS

Installing CA services on windows, certificate enrollment policy service, OCSP

Global Protect Authentication using Dual Factor Token and Computer Certificate

Global Protect Always On User-Logon and Pre-Logon configuration

Global Protect Pre-Logon with User Logon (on demand) configuration example

Global Protect HIP Check

## Panorama

Panorama concepts, hardware, template and template stack

Panorama Device Group Concepts Part 1

Panorama Device Group and Object Inheritance

## QoS

QoS Introduction

QoS Download Upload Bandwidth Restriction

QoS Classification and Marking

QoS Classification and Markings Example

IPSec QoS lab setup overview

Bandwidth Throttling IPSEC tunnels demo

IPSec Tunnel QoS traffic classification

IPSec Tunnel QoS controlling traffic bidirectional

IPSec QoS Copy ToS Header Explanation and demo

Using the CLI to show QoS details



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