Clustering for High Availability

Module 6: Check Point ClusterXL

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Objectives

- Describe the need for High Availability
- Clustered Firewalls
- Cluster Control Protocol

High Availability

- The need for High Availability commonly referred to as HA
- Active/Standby Security Gateways
- Load Balanced Security Gateways

Cluster IP Address

- Cluster Members Physical IP address
- Virtual IP Address

Cluster Synchronization

- The need for synchronization
- Full Synchronization
- Delta Synchronization

Clustered Firewalls

- High Availability Cluster
- Load Balanced Cluster
- VRRP Cluster

High Availability

- Active Standby
- New Mode High Availability
- VMAC (Virtual MAC Mode)

New Mode High Availibility

- Each member has a unique IP address and unique MAC Address
- The Cluster has an Active and a Standby Member
- The Active member responds to traffic to the Virtual IP Address or Cluster IP Address
- The Cluster IP Address is associated with the MAC Address of the Active Member of the cluster
- If a failover occurs the member that becomes active performs a gratuitous ARP broadcast so other members learn of the new MAC adddress

VMAC (Virtual MAC) Mode

- The Cluster has an Active and a Standby Member

- Each member has a unique MAC address but the Active Cluster member responds to the Virtual IP address and to the Virtual MAC address

- The Cluster IP Address is associated with the Virtual MAC Address

- If a failover occurs the member that becomes active responds to traffic sent to the Virtual IP and Virtual MAC Address

Cluster Control Protocol (CCP)

- What is CCP
- Broadcast or Multicast

Cluster Control Protocol (CCP)

- Multicast MAC Address
- How is the address determined

Summary

- Understand why High Availability is needed for fault tolerant security.
- Understand what options are available for Clustered Firewalls
- Understand how Cluster Control Protocol is used to monitor firewall state

Bibliography

Check Point R80.10 ClusterXL Administration Guide California: USA

Tim Hall *Security Gateway High Availability* California: USA