Palo Alto Networks and Corsa Security

Intelligent Scaling of VM-Series Firewall Clusters for 10G to Terabits of Inspection

KEY DRIVERS

Organizations are looking to inspect large volumes of traffic while ensuring:

- **Business continuity**
- **Ease of deployment and operations**
- **Risk mitigation**
- **Security robustness**

SOLUTION

Corsa Security Orchestrator scaling Palo Alto Networks VM-Series software firewall clusters

BENEFITS

- **Enjoy cloud-like elasticity and manageability of high availability, on-premise virtual firewall clusters.**
- **Maintain predictable performance and inspect what you need to based on intelligent load balancing**
- **Eliminate inspection limitations with scale-out platform that automates HA cluster upgrades.**
- **Speed deployment and time to service with automated virtualization workflows and deploy a consistent solution across all sites or zones**
- **Use linear scaling for best entry level economics and leverage a pay-as-you-grow Corsa Security subscription model with Palo Alto Networks credit-based software firewall licensing for 5x improved economics.**

USE CASES

- **Protect 5G and Private 5G networks**
- **Protect MEC infrastructure**
- **Secure trust boundaries within the private network**
- **Secure the internet-edge**

About Corsa Security

Corsa Security is the leader in automating network security virtualization, which helps large enterprises and service providers deploy, scale and optimize virtual on-premise firewalls with speed (24x faster deployment), simplicity (zero-touch operations) and savings (9x lower TCO).

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The Challenge

Scaling network security has always been challenging in any network. There is a need to provide a full range of firewall scale that can extend to terabit-scale traffic inspection capacity and that can be rapidly deployed and dynamically scaled without affecting the performance of these networks.

The Intelligent Scaling Solution™

Key to this is the Corsa Security Orchestrator (CSO) which binds the worlds of network security (the firewall inspection) to the underlying network (load balancing traffic to the firewalls and server infrastructure). It performs key functions required for large-scale firewall virtualization and traffic inspection:

- Orchestration with workflows to deploy and scale high availability VM-Series clusters
- Intelligent load balancing for VM-Series clusters to maintain traffic symmetry
- Scaling HA clusters to grow inspection capacity
- Health check mechanisms to monitor firewall and system performance

The Corsa Security approach to network firewall virtualization simplifies how large enterprises and service providers scale traffic inspection at much lower total cost of ownership (TCO). By tightly integrating virtualization with orchestration, Corsa Security streamlines deployment, scaling and optimization of ML-Powered VM-Series Software Firewall clusters for large, private networks. Customers deploy virtual firewall clusters rapidly and with ease and then pay as they grow while never having to deal with infrastructure.

How it Works

The CSO with intelligent load balancing, combined with Palo Alto Networks HA clustering, presents a unified solution for 10G to Terabit scale inspection. The CSO creates and scales HA clusters with VM-Series software firewalls with simple, built-in workflows for the full lifecycle of HA cluster management from POC to Pilot to Production. The intelligent load balancing is specifically developed to handle traffic across multiple firewalls in a cluster and can extend to multiple clusters to achieve 12Tbps of scale when used with Palo Alto Networks Intelligent Traffic Offload (ITO). Tightly integrated with Panorama policy management and licensing, the CSO also includes infrastructure management to monitor resources and firewall health so users can predictably scale inspection capacity while maintaining network performance.

10G to Terabit Scale Use Cases

Service providers and enterprises need efficient scaling of network security to deal with their most demanding use cases. Below are a couple of examples.

Service Providers 5G Gi-LAN and Internet Perimeter

Service Providers are looking for efficient scaling of the internet perimeter, specifically for 5G Gi-LAN and the N6 node. These links can run many 100G of traffic extending into Terabit scale.
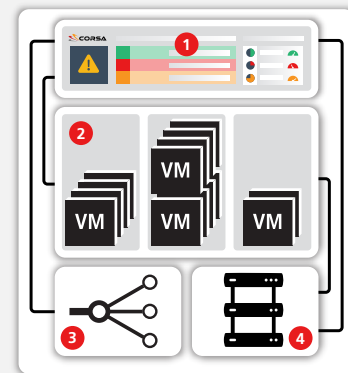
With the tightly integrated Corsa Security/Palo Alto Networks cluster scaling, virtual firewall orchestration and intelligent load balancing allows large amounts of inspection to be created that is managed through a single pane of glass. It is a unified platform that includes Palo Alto Networks Intelligent Traffic Offload (ITO) which can achieve 70-80Gbps of inspection per VM-Series. In a cluster of 16 firewalls, 1.2Tbps of inspection is possible which is ideal for large N6 nodes. If more inspection is needed, then multiple HA clusters can be created.

For service providers growing to Terabit scale, throughput up to 200Gbps for a 16-firewall cluster without ITO can be achieved and is ample inspection. If more is eventually required, ITO can be introduced at some future point. No matter the scale, the platform affords it with resilience built in.
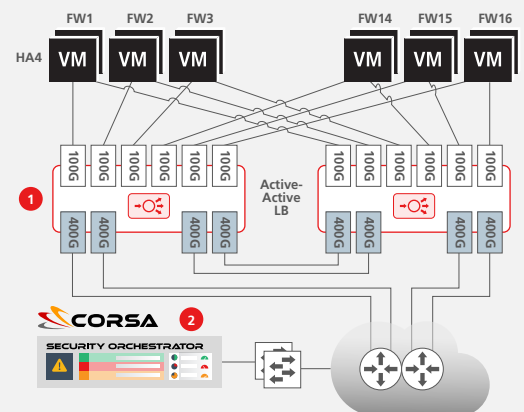
Enterprise Intelligent Scaling

Typically, enterprises are in need of a range of firewall throughput that can be anywhere from 10Gbps to 100Gbps driven by many aspects including industry 4.0 enabled applications. The challenge of this range is that it is very broad and an enterprise might start at 10Gbps but quickly grow to needing something much higher. They require a platform that offers granular security that can quickly scale to higher levels.

The unified Corsa/Palo Alto Networks VM-Series cluster scaling platform is designed to offer scale at any entry level and then allow inspection to grow as needed. The Corsa Security Orchestrator contains easy to use workflows that automate the VM-Series cluster creation and monitor system resources and health, all while intelligently load balancing traffic across the HA cluster to maintain traffic symmetry. If a member of the HA cluster fails, traffic is automatically moved to the healthy members. When more throughput is required, the CSO cluster resize function is a single-click to add VM-Series to the cluster and increase inspection with the load balancer taking care of flow redistribution behind the scenes.

1. **Corsa Security Orchestrator**
2. **Palo Alto Networks VM-Series Virtual Firewalls**
3. **Corsa Security Load Balancer**
4. **Commodity 'bring your own' Server**

FIGURE 1: Intelligent Scaling of VM-Series Clusters

1. **Corsa Security Intelligent Load Balancer**
   Flow symmetry | Flow redistribution | Software or Switch-based

2. **Corsa Security Orchestrator**
   VM Management | Monitoring | Continuity Health Checks

FIGURE 2: Example 1.2Tbps Deployment