Google Cloud

Networking in Google Cloud

Advanced Security
Monitoring and Analysis

Today's agenda

01 Packet Mirroring for network traffic inspection

02 Network security best practices

03 Quiz

Use case: Monitor network traffic from selected VMs

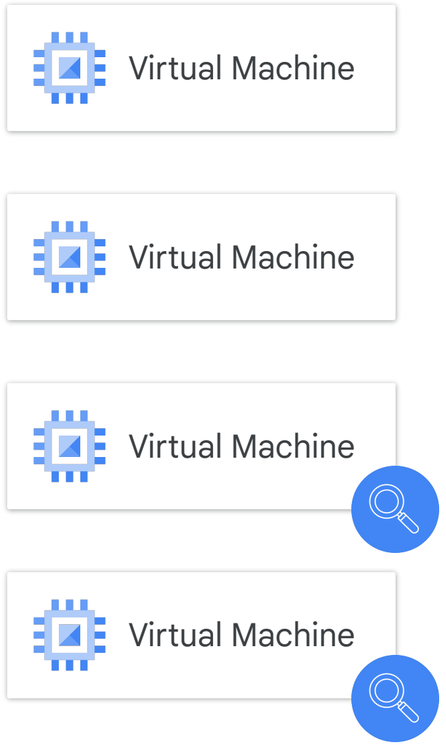
Challenges

- Monitor and secure specific VMs within a network.
- Spot attacks that span multiple network packets and target specific VMs.

Solution

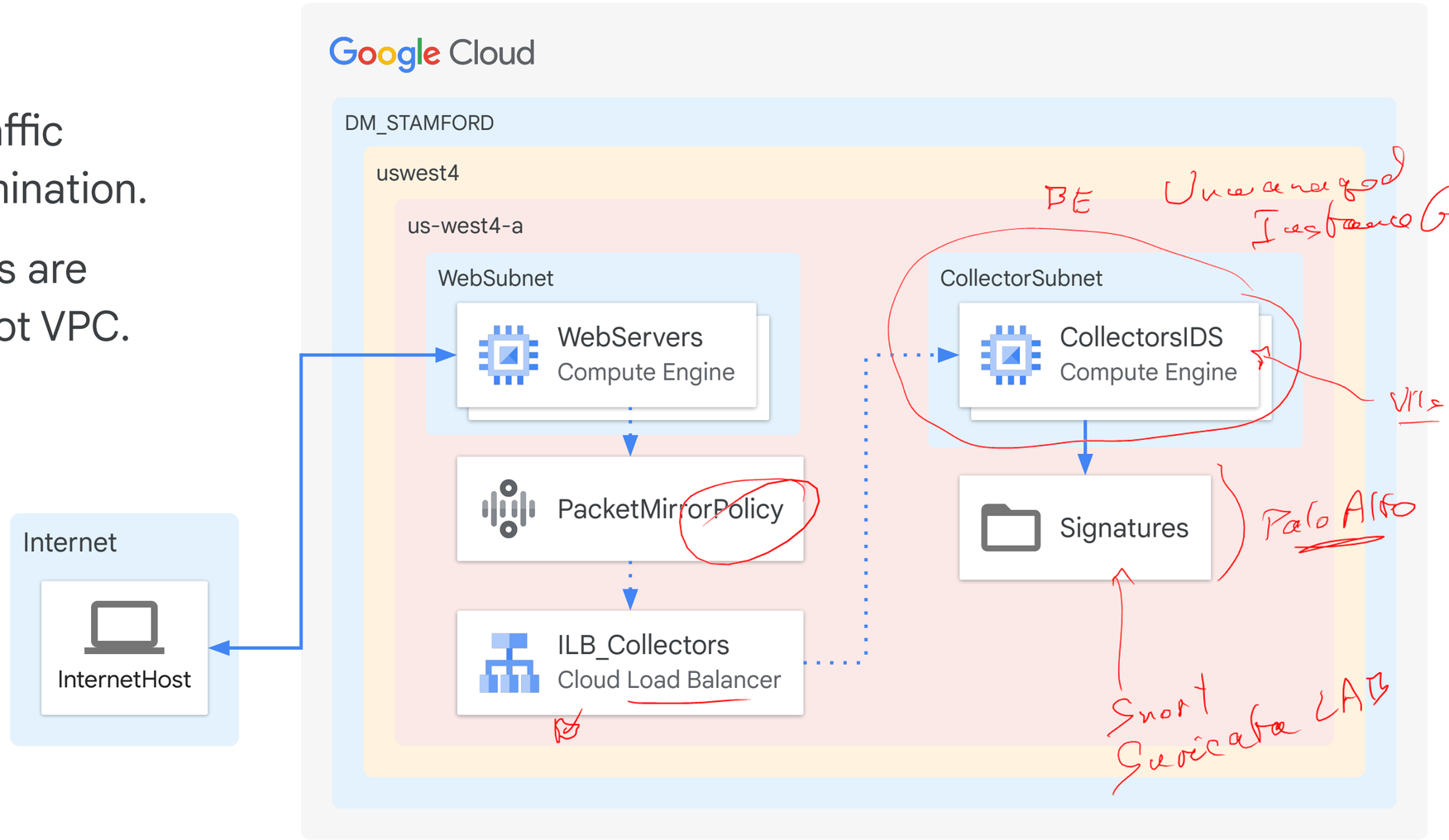
Packet Mirroring

- Analyze all packets within each flow.
- Identify anomalies.
- Detect complex attack patterns.



Packet Mirroring: Visualize and protect your network

- Clones VPC instance traffic and forwards it for examination.
- Packet Mirroring policies are tied to workloads and not VPC.



Packet Mirroring: Overcoming bandwidth limitations

Packet Mirroring consumes the egress bandwidth of the mirrored instances.

01 It uses filters to reduce the bandwidth on mirrored instances.

02 Filters can be based on protocol, IP ranges, traffic directions, etc.

03 The current maximum of filters for Packet Mirroring is 30.

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Some network security best practices

- Adopt a zero trust network model
- Analyze your network
- Secure connections between on-premises and Google Cloud
- Use a web application firewall
- Disable the default network
- Automate infrastructure provisioning
- Secure the cloud perimeter
- Monitor your network

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Quiz | Question 1

Question

What is the primary purpose of Packet Mirroring in network security?

A. To redirect traffic to a different network interface.

B. To create a duplicate copy of network traffic for analysis.

C. To filter out unwanted traffic from a network.

D. To encrypt network traffic for privacy.

Quiz | Question 1

Answer

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Quiz | Question 2

Question

Which of the following is a key benefit of using Packet Mirroring for network security analysis?

A. It directly prevents cyberattacks.

B. It reduces network bandwidth usage.

C. It enables the capture and inspection of traffic without impacting network performance.

D. It automatically patches vulnerabilities in software.

Quiz | Question 2

Answer

Which of the following is a key benefit of using Packet Mirroring for network security analysis?

A. It directly prevents cyberattacks.

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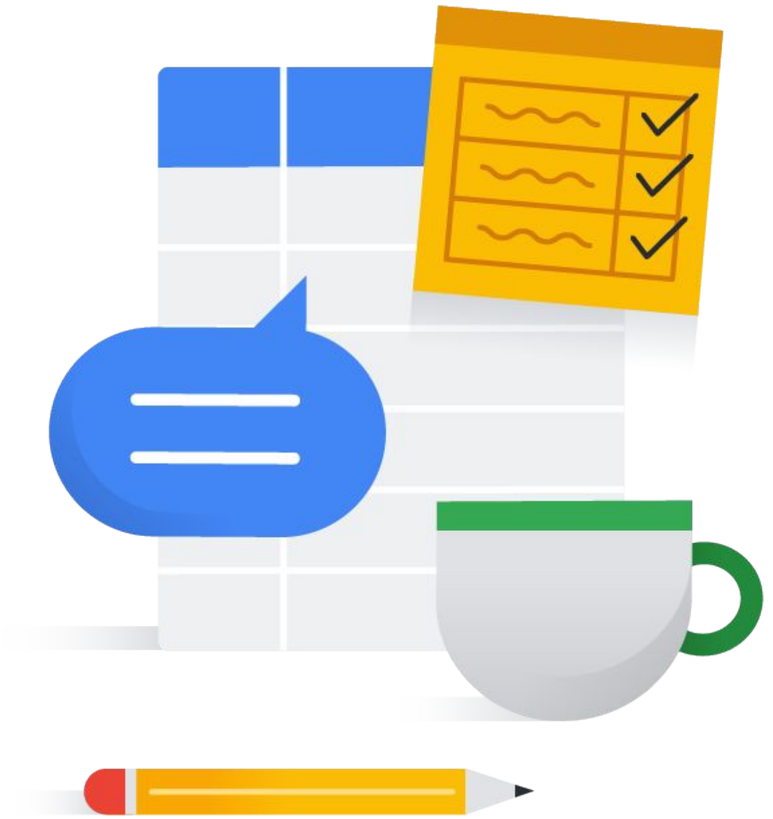
C. It enables the capture and inspection of traffic without impacting network performance.

D. It automatically patches vulnerabilities in software.

Debrief



Thank you.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