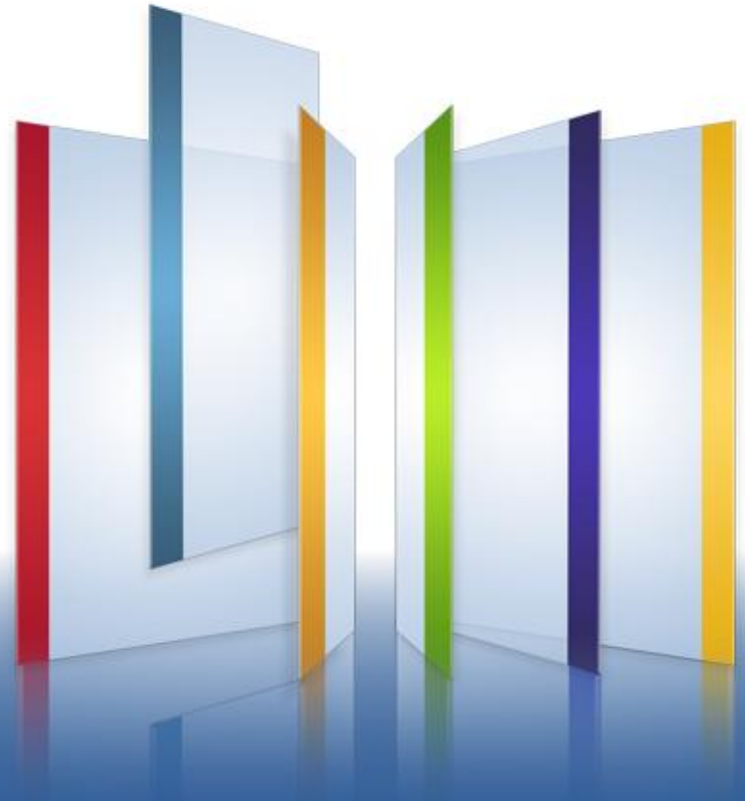




Proactively Secure Your Cloud Computing Platform



Dr. Krutartha Patel

Security Engineer

1

Cloud Security – IMPERATIVE

2

Positives and Challenges

3

Physical and Virtual Gateways

4

Leveraging Investment

Strong Drivers for Move to the Cloud

**Compute
Power**

**Reduced
Costs**

Business Continuity



Scalable, elastic
infrastructure

Pay only for what you
use

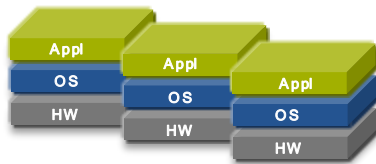
Resilience and disaster
recovery

Cloud Delivery Models

Model	Vendors	Target
IaaS Infrastructure-as-a-Service	Rent Hardware Software Networks  	 IT
PaaS Platform-as-a-Service	Rent Hardware and Software  	 Developers
SaaS Software-as-a-Service	Rent Applications Such as Email  	 End Users

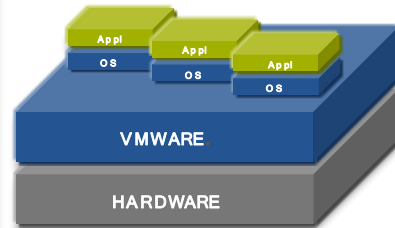
IT Infrastructure Deployment Models

Physical



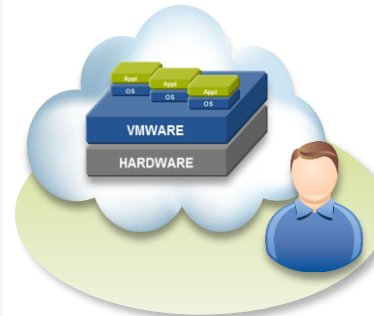
Traditional enterprise

Virtual



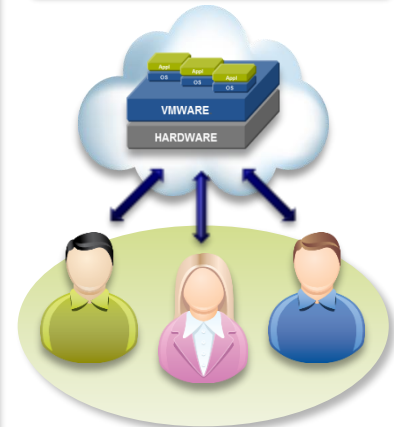
Virtualization, better utilization

Private Cloud (On-Premise)



Owned and operated by organization

Public Cloud (Off-Premise)



Resources on demand and pay-per-use

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Cloud Security Positives

Scalable Security

Expert Security

Global Intelligence

Multi-Layer Security

Cost Effectiveness



Network Attacks

Multi Tenancy

Access Control

Data Security

Compliance and Regulations



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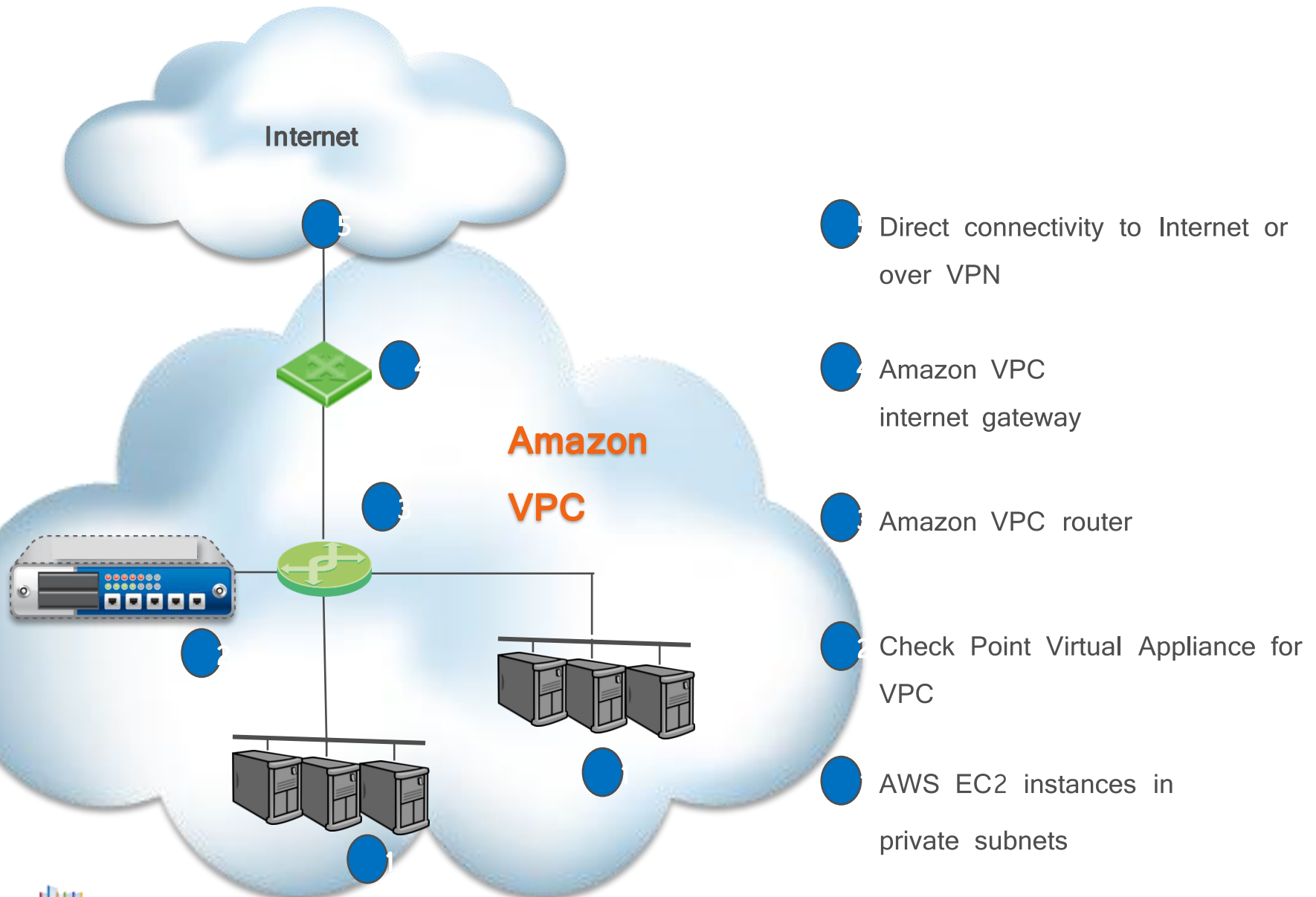
Case Study – Amazon Web Services



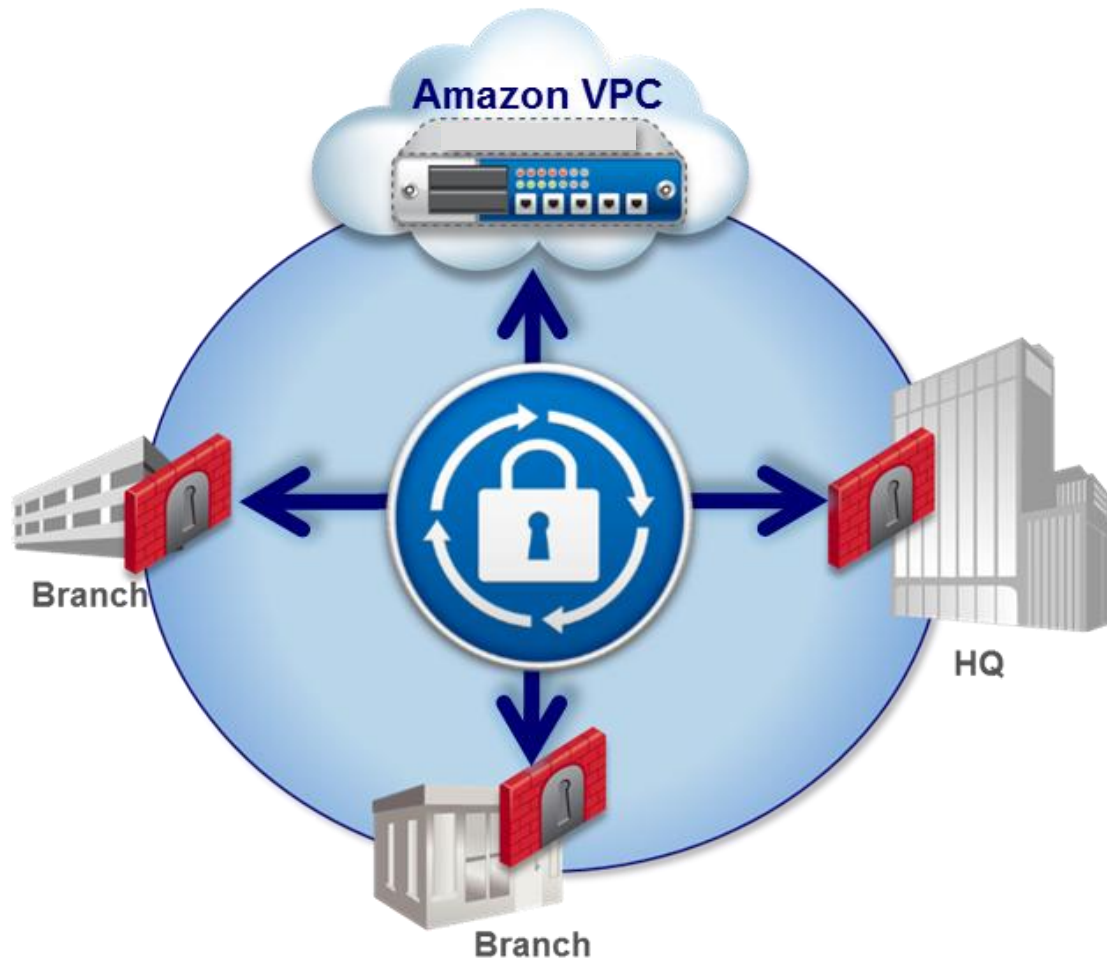
Virtual Gateways for
Amazon Public Cloud

Secure Your Infrastructure in AWS Public Cloud

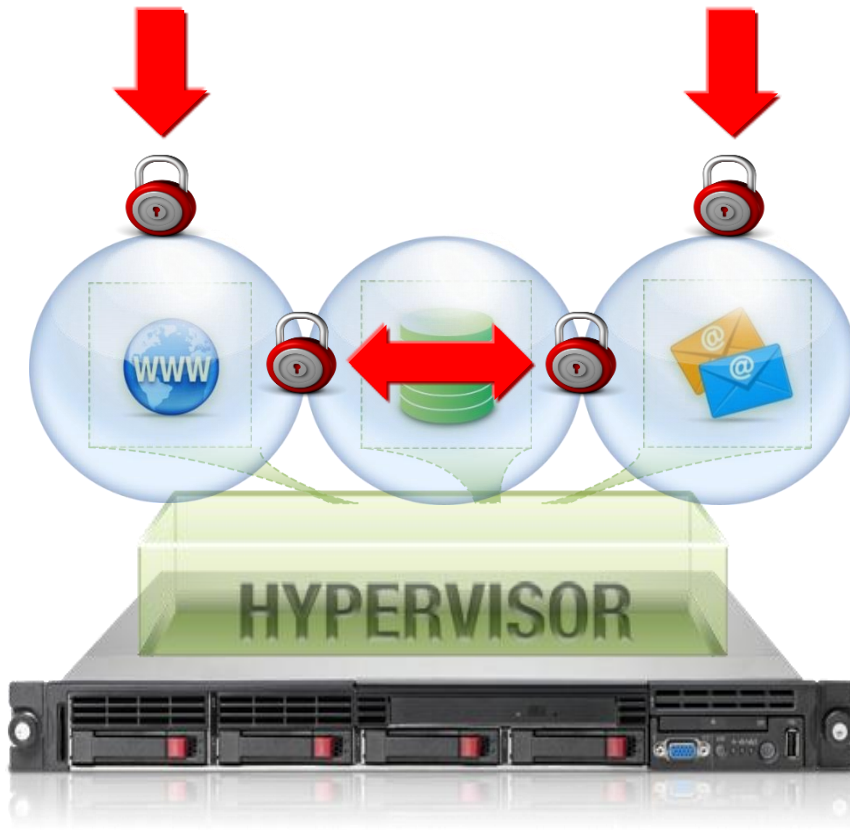
Amazon VPC Topology



Central Management and Enforcement



Virtualization Security Challenges



Security Challenges in Virtual Environments

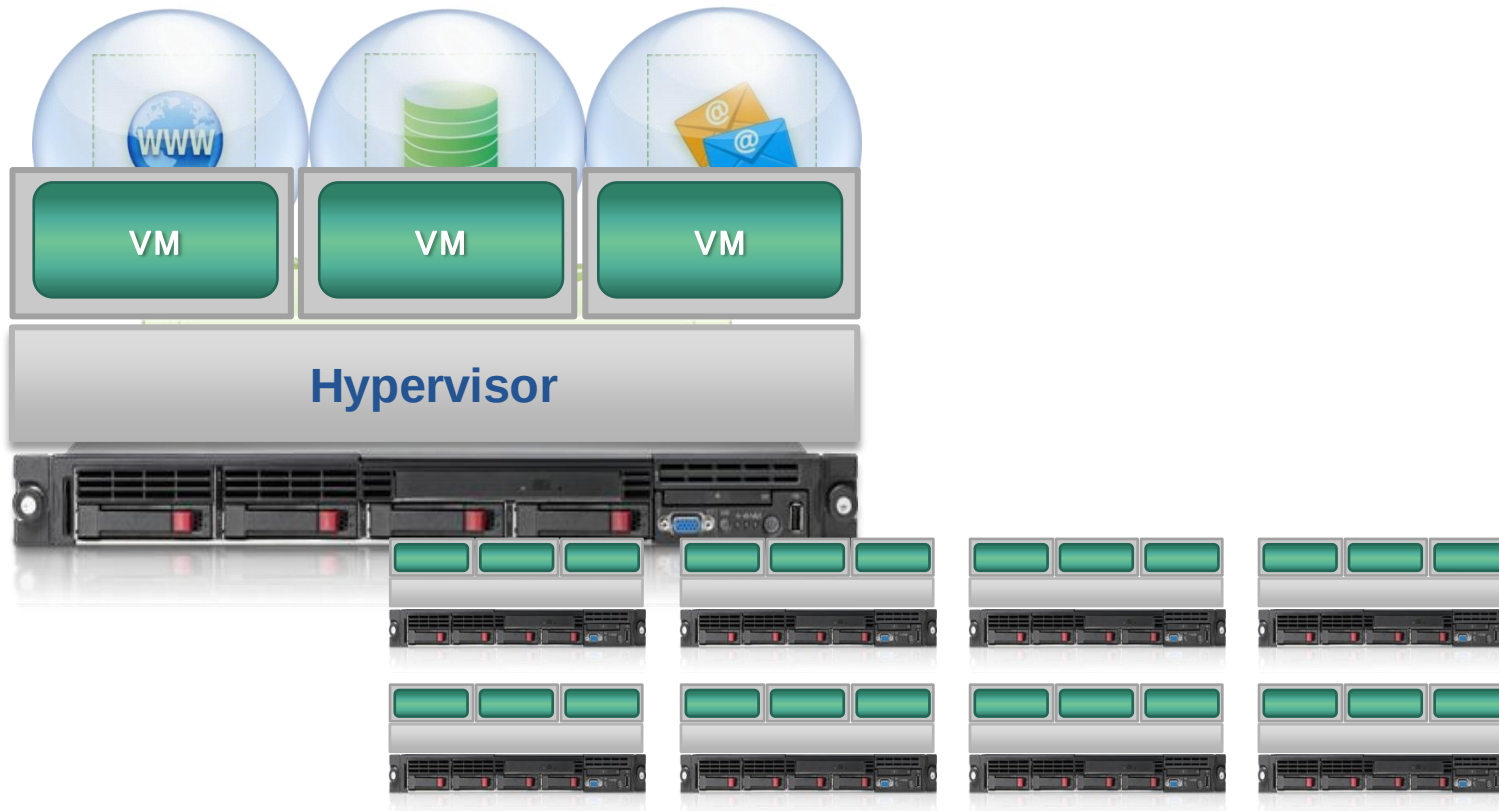
Protection from external threats

Inspect traffic between
Virtual Machines (VMs)

Secure new Virtual Machines automatically

Virtualization Security Challenges

Security Challenges in Virtual Environments



Virtualization Security Challenges



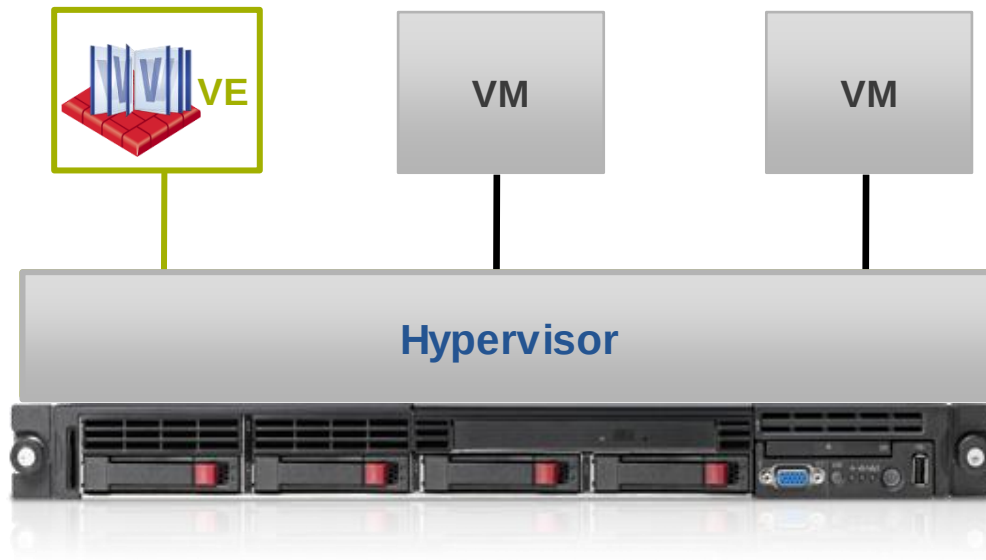
Security Challenges in Virtual Environments (Data Center/Cloud)

**Ensure Security in dynamic
environments**

**Maintain zero-downtime during Virtual
Machines live migration**



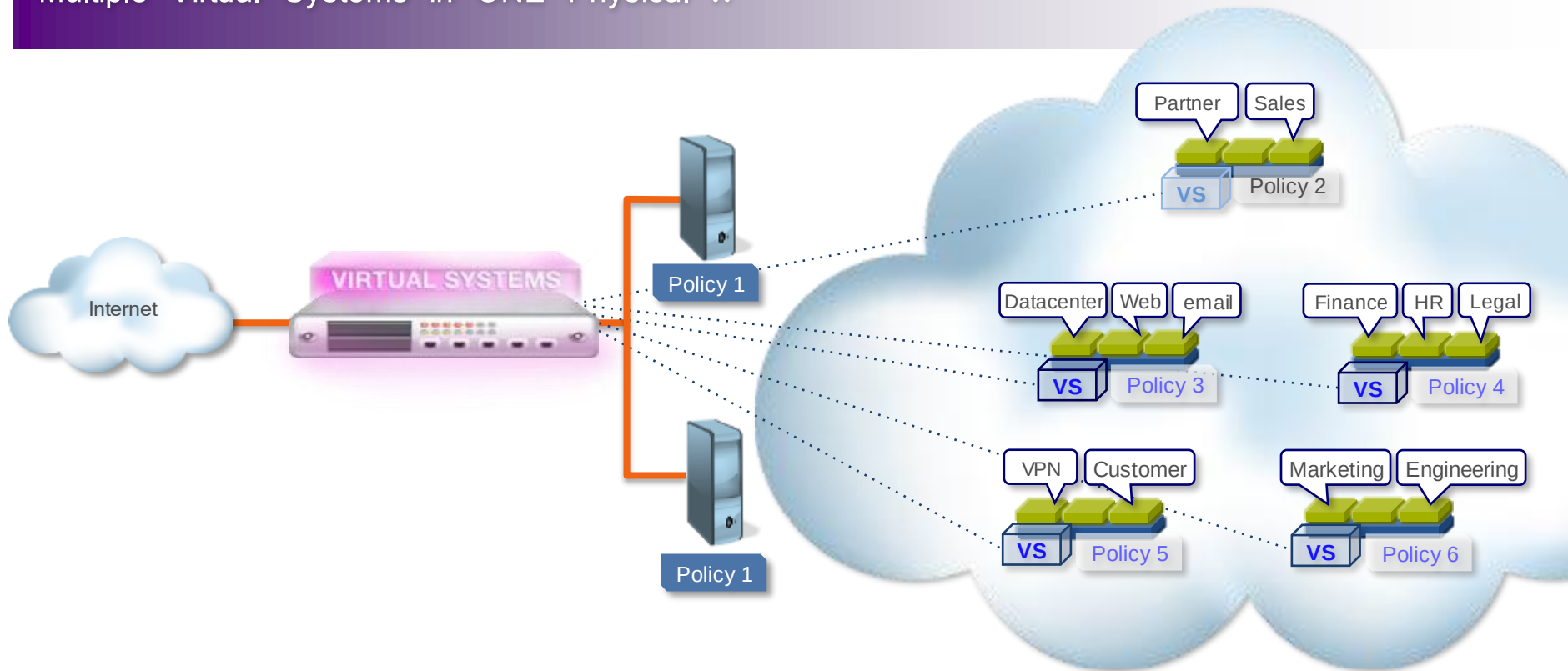
Inter-VM Traffic Inspection Protects Virtual Machines



- ▶ Seamless security within the Hypervisor
- ▶ IMPORTANT to Integrate using VM Vendor APIs
- ▶ Central Management, Granular Policy design

Public or Private Clouds

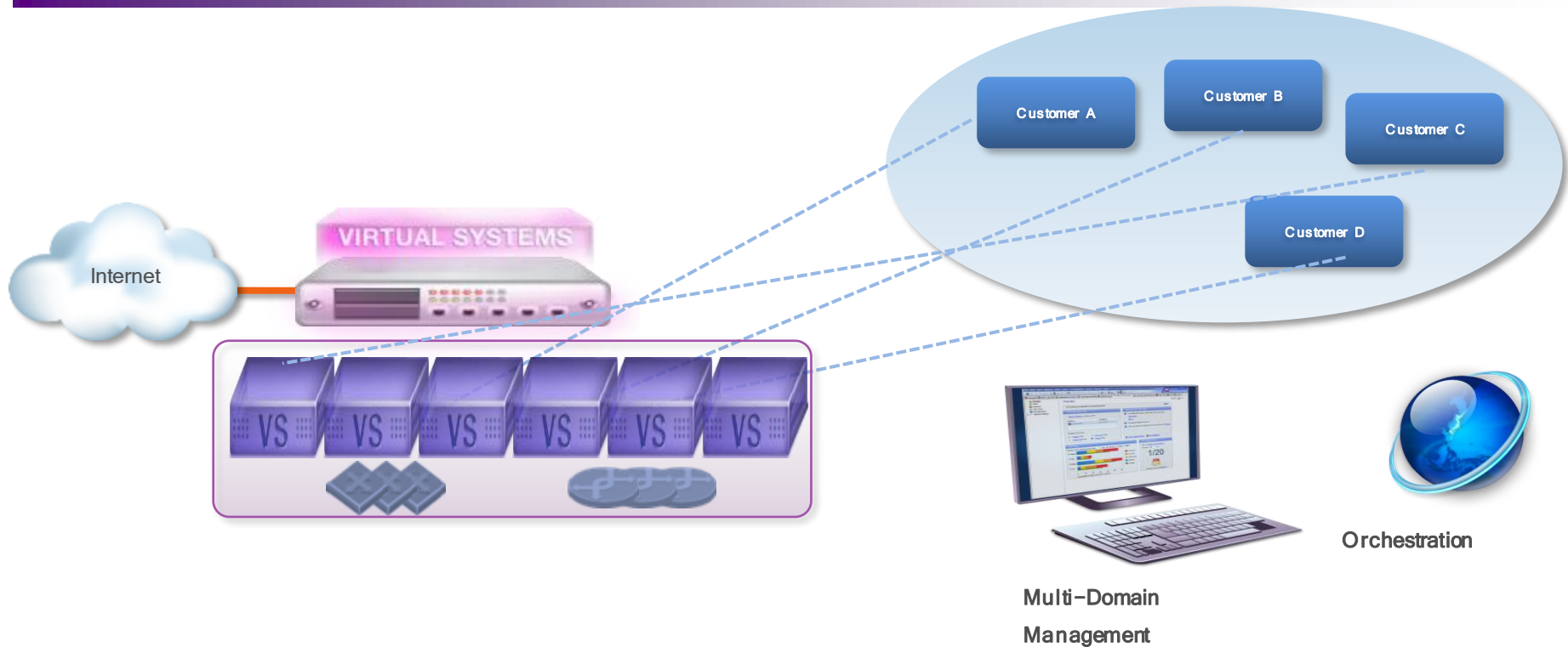
Multiple Virtual Systems in ONE Physical ..



Virtualized Gateways Simplify Cloud Security

Public or Private Clouds

Multiple Virtual Systems in ONE Physical ..



Virtualized Gateways Simplify Cloud Security

Cloud Security Challenges



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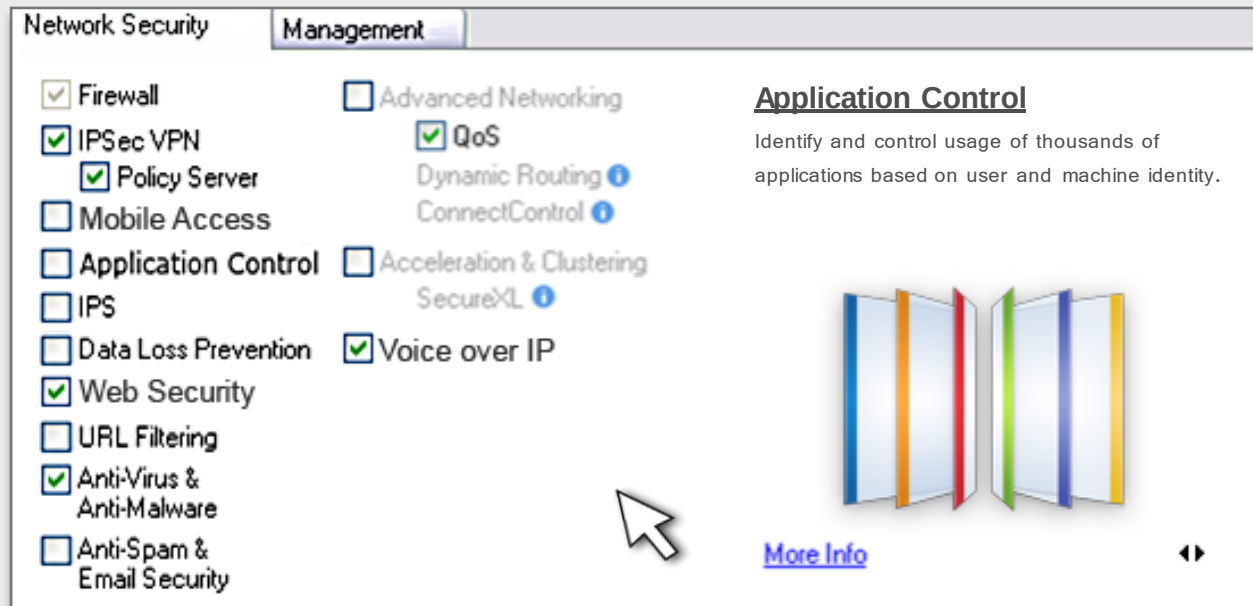
Physical and Virtual Gateways

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Leveraging Investment

One-click Activation of functionality

From the central management console





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Thank You

