



Cisco Data Center Security

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Data Center Evolution

New Trends Drive new Security Realities

Cloud Computing
On Demand Capacity; Global Reach

Virtualization
Consolidation; Optimization; Agility

Openness
Secure Access for Mobile Users, Partners, Outsourcers

Scale and Simplicity
Capacity and Operations Scaling with the Business

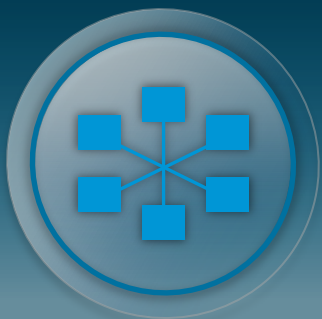
2000

2005

2010

2015

Challenges in Building the Secure Data Center



Scale and Simplicity

- Application performance
- Ease of deployment
- Scalability for advanced security services



Openness

- Segmentation and access control
- Identity-based authorization
- Access revocation



Virtualization

- Virtual network visibility
- Secure virtual access layer
- Operations and management



Cloud Computing

- Establishing trust on shared infrastructure
- Secure cloud connectivity
- Secure cloud-based applications

Multiple Layers of Cost



- Hardware procurement
- Rack space
- Heating and cooling
- **On-going management**

Data Centers Require Better Methods to Deliver Secure,
High Performance Connectivity

Evolving Threat Landscape



Existing and new vulnerabilities
Industrialization of hackers
Cannot simply trust anyone “inside”

Business Imperatives

Enable
Business Speed
and Agility



*Maintain Regulatory
Compliance and
Manage Risk Well*



Protect Intellectual
Property



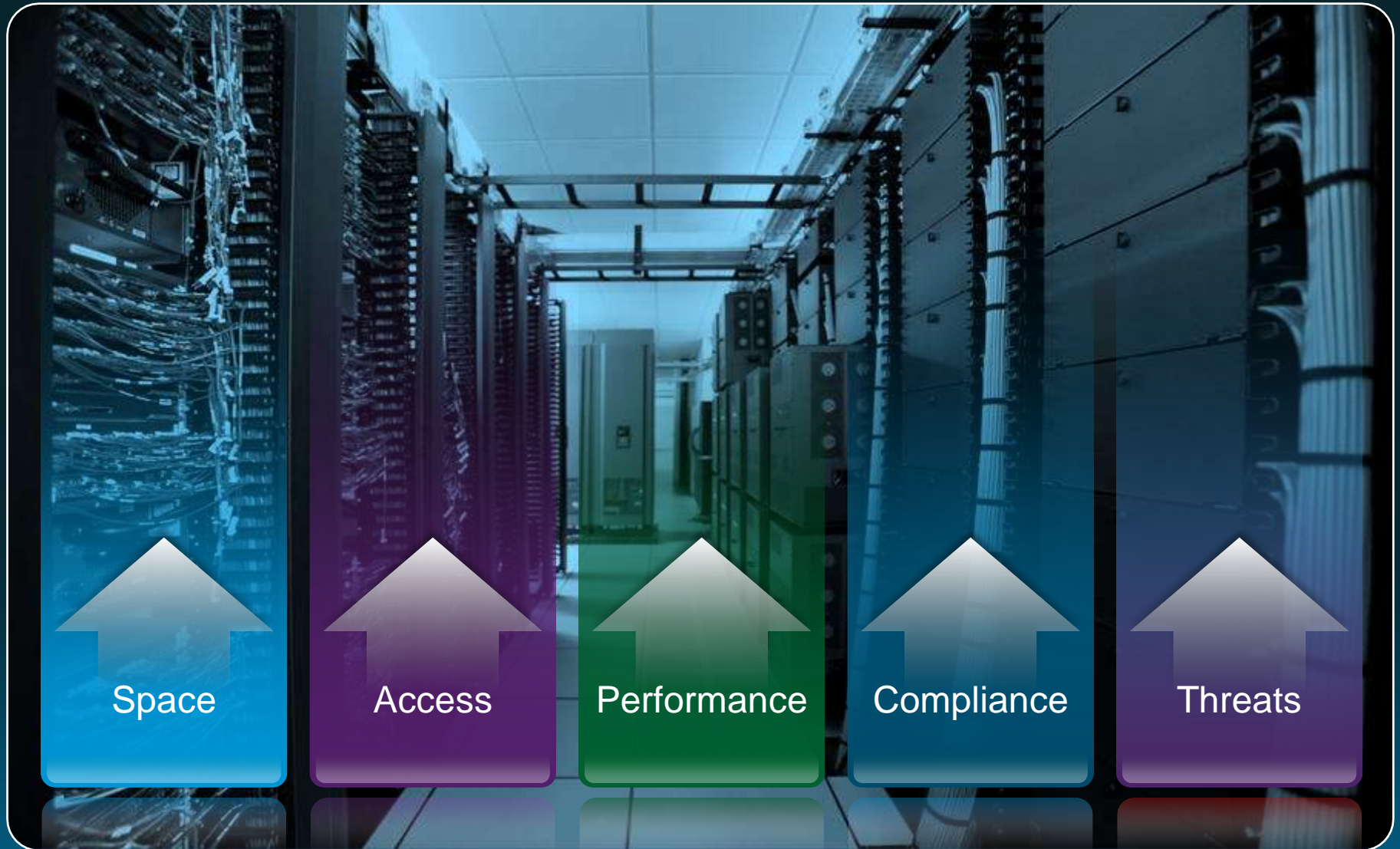
Simplify
Security for the User,
the Business, and for
the Operations

*Maintain Regulatory
Compliance and
Manage Risk Well*

Design and Defend
for Unpredictable
Threats

Security Imperatives

Data Center Challenges



Space

Access

Performance

Compliance

Threats

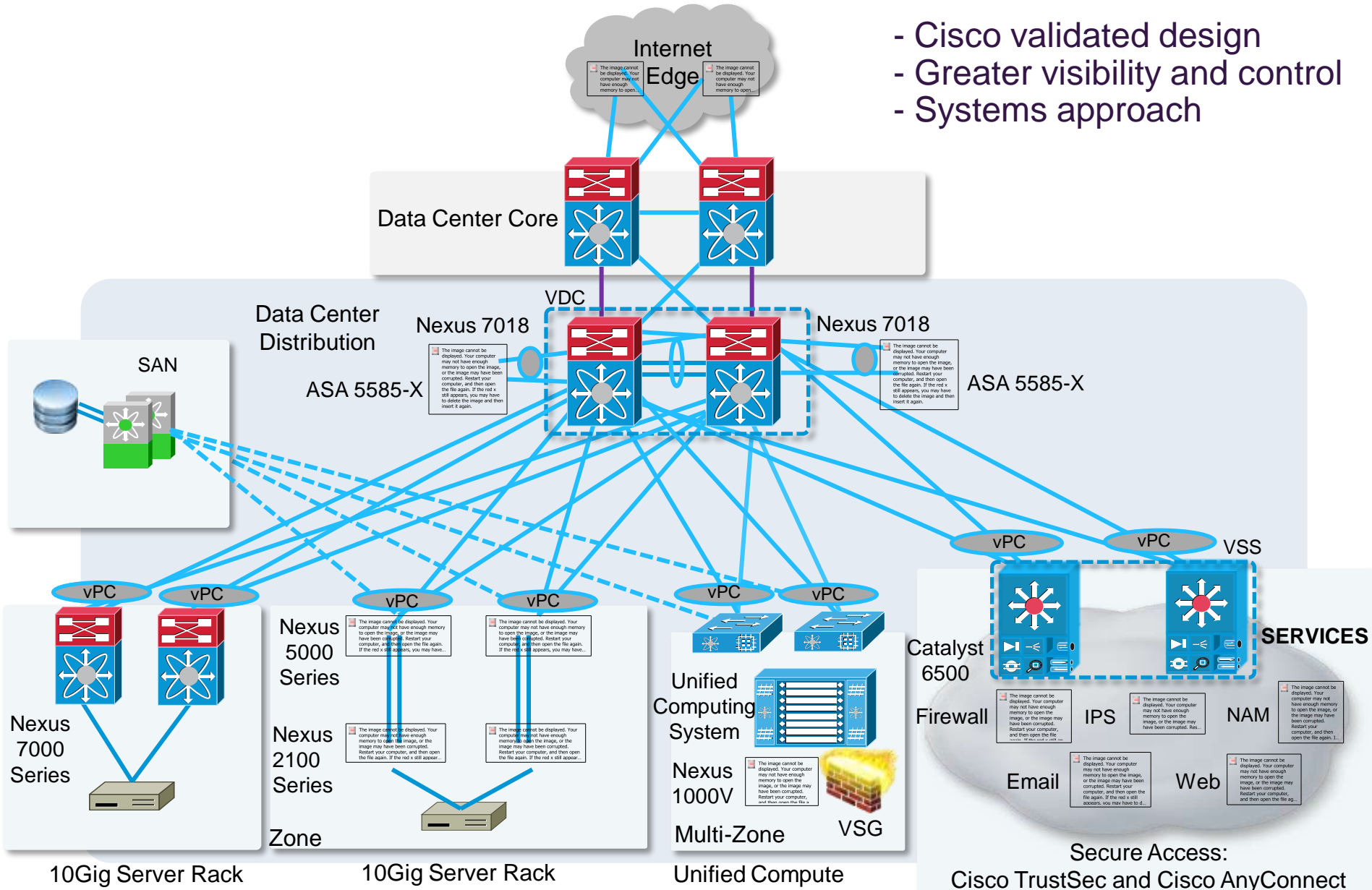


Cisco Secure Data Center



Cisco Secure Data Center Architecture

- Cisco validated design
- Greater visibility and control
- Systems approach



Secure Access:
Cisco TrustSec and Cisco AnyConnect

Cisco Secure Data Center Portfolio

Threat Defense

ASA 5585-X with
Firewall and IPS,
Cisco Security
Intelligence Operations
(SIO),
Cisco Security
Manager



Content Security
Leader

Virtualization Security

Cisco Nexus® 1000V
switch,
Cisco Virtual Security
Gateway
VPath Svcs



Secure Access Control

Cisco AnyConnect,
TrustSec,
Identity Service Engine,
Access Control Server





Cisco Secure Data Center

Scale



Span



Simplicity



Security



Scale

Span

Simplicity

Security



Cisco ASA 5585-X

Firewall

IPS

Remote Access

Scale

Span

Simplicity

Security



THROUGHPUT

A white icon on a blue circular background showing a digital display with the numbers 5, 9, 7, and 8, representing the number of concurrent connections.

5 | 9 | 7 | 8

OF
CONCURRENT
CONNECTIONS



CONNECTIONS
PER SECOND

MultiScale™



350,000 connections per second

10 million connections

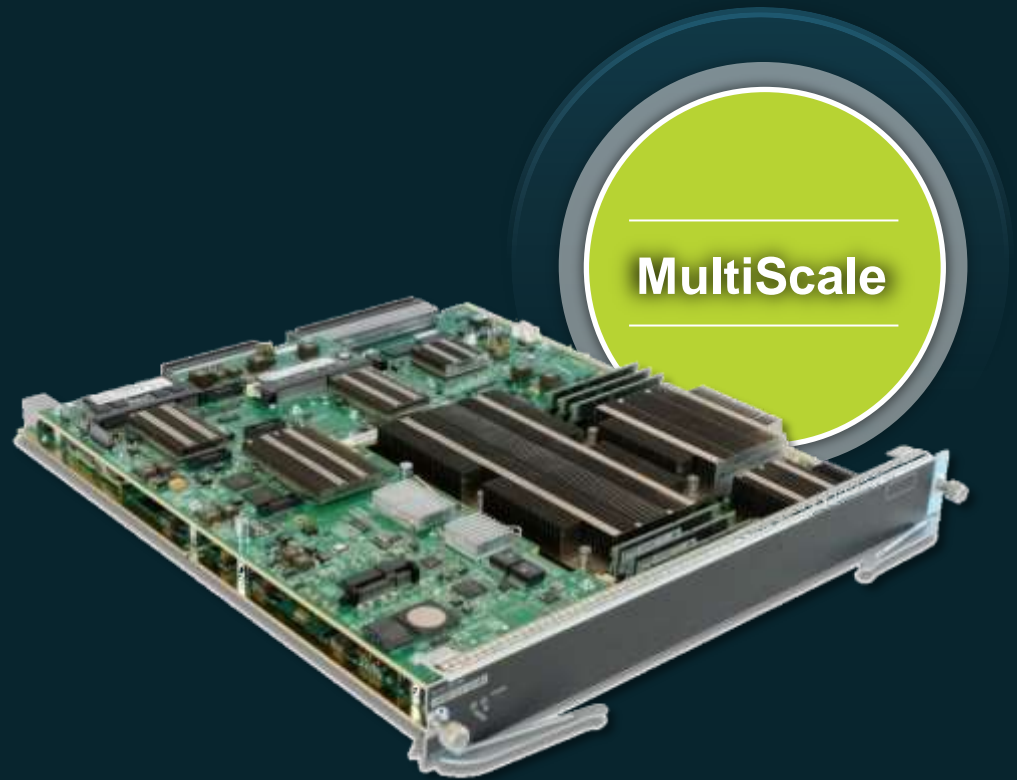
20 Gbps multi-protocol throughput

40 Gbps large packet throughput

2 Rack Units

Cisco ASA Services Module for Catalyst 6500 Series

- ASA security blade for the Catalyst 6500
- Places security directly into the datacenter backbone
- Simplified installation and greater flexibility
- High performance and capacity



Targeted Deployment



ASA 5585-SSP10



FWSM



ASA 5585-SSP20



ASA 5585-SSP40



ASA 5585-SSP60



ASASM

Campus

Data Center

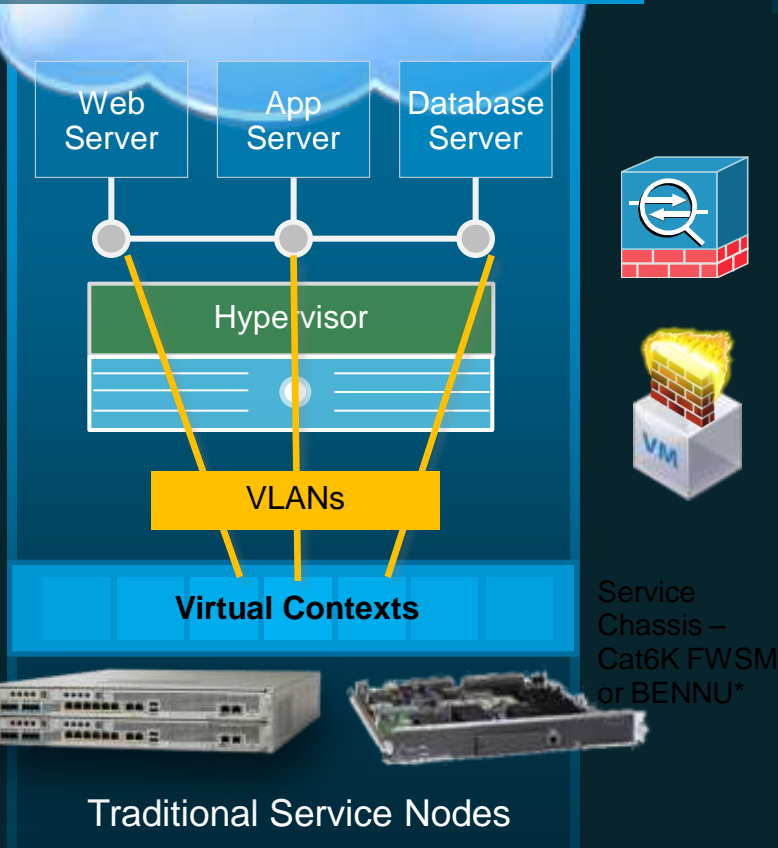
Industry-leading Performance

Metric	ASASM
Max Throughput (EMIX)	16 Gbps
Concurrent Connections	10 Million
New Connections / Second	300,000
Max Security Contexts	250
Max VLANs	1000
Blades per Chassis	4

Deployment Options for Security Services

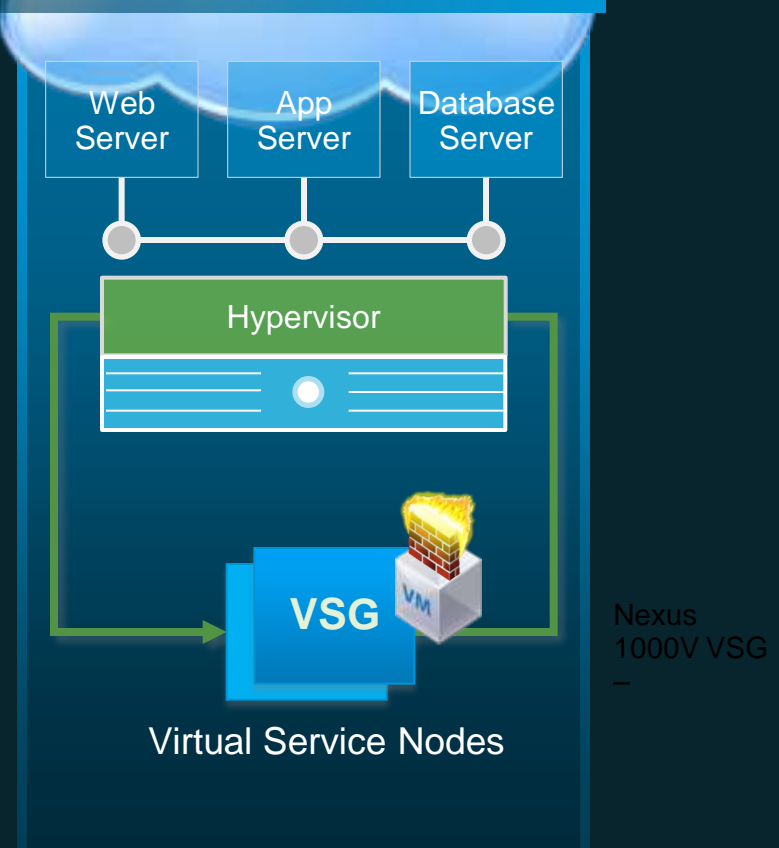
1

Redirect traffic via VLANs to external (physical) appliances



2

Apply hypervisor-based network services





Scale

Span

Simplicity

Security



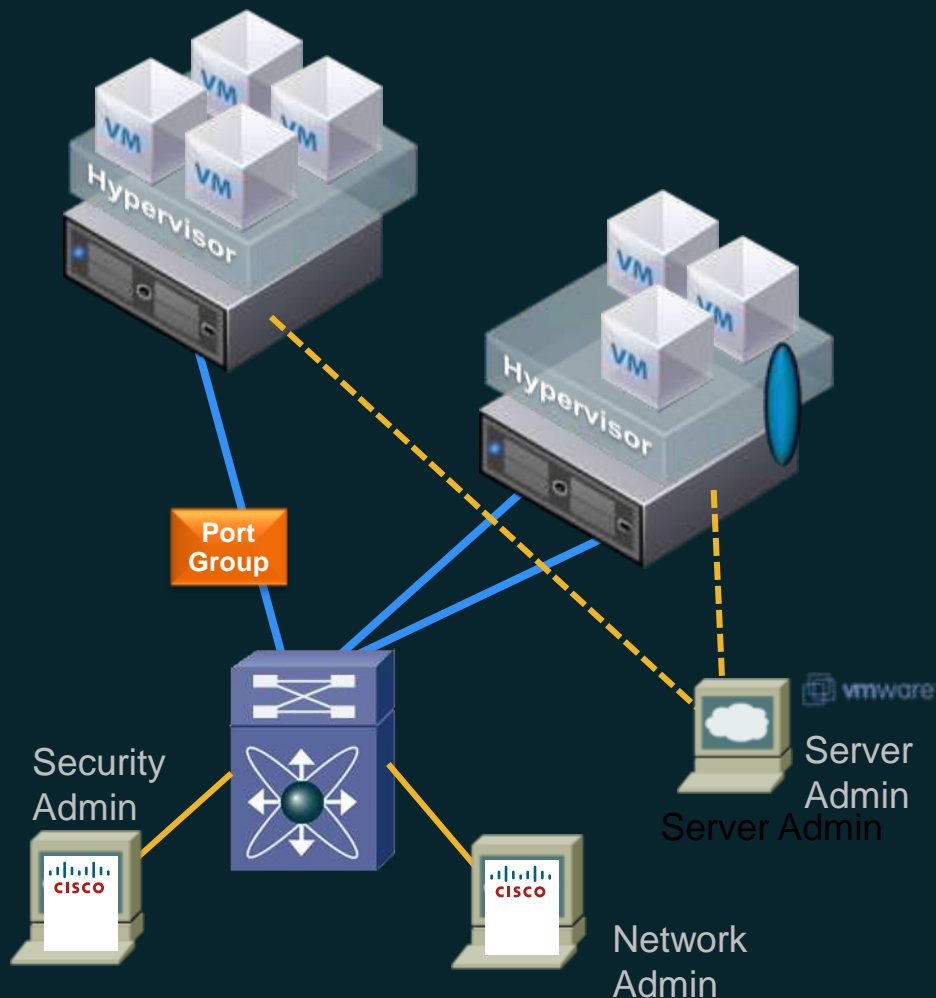
Cisco Virtual Security Gateway

Secure Edge

Secure Segmentation

Secure Cloud

Server Virtualization Issues



1. vMotion moves VMs across physical ports—the network **policy must follow vMotion**
2. Must view or apply network/security policy to **locally switched** traffic
3. Need to maintain **segregation of duties** while ensuring **non-disruptive operations**

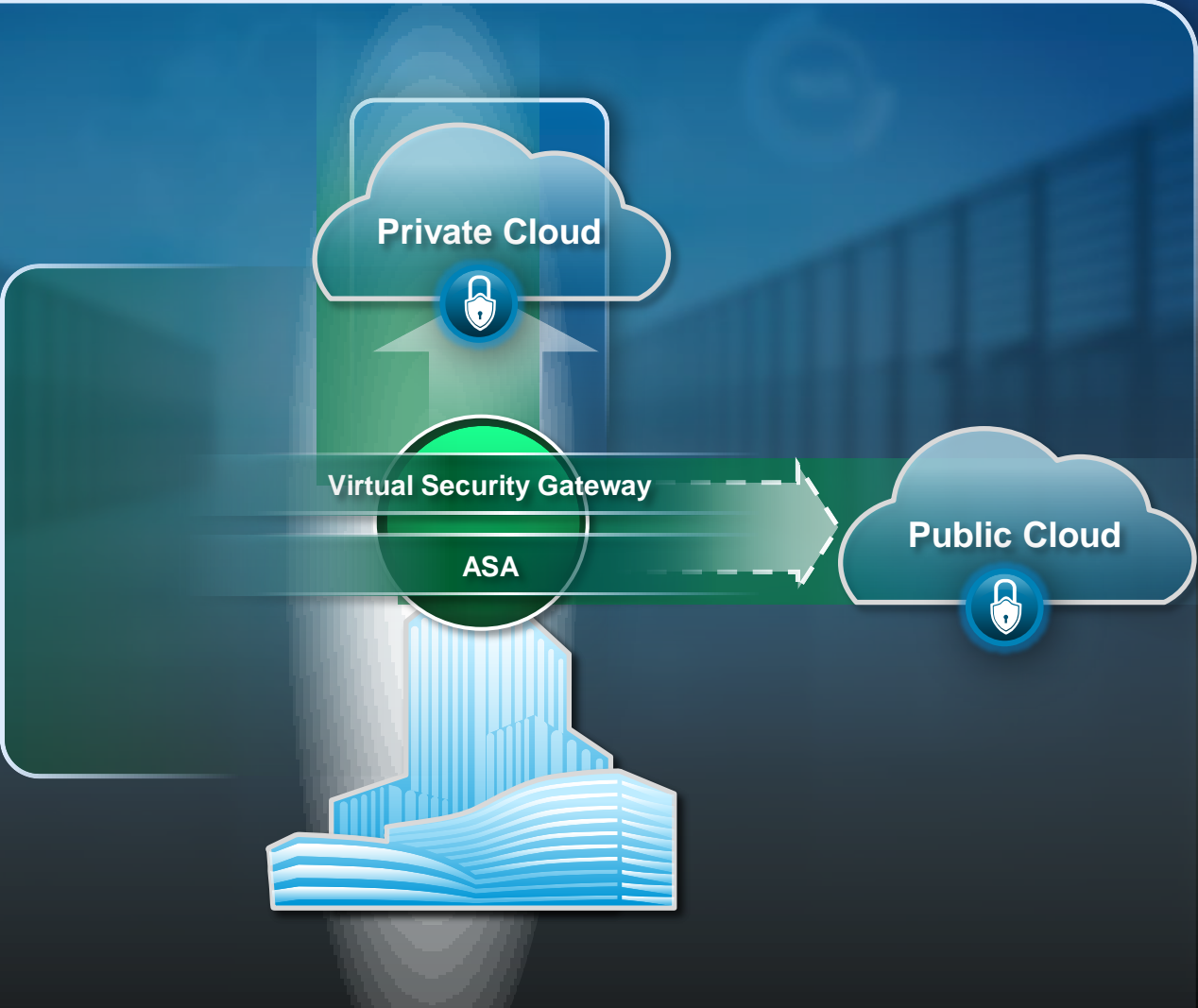
Scale

Span

Simplicity

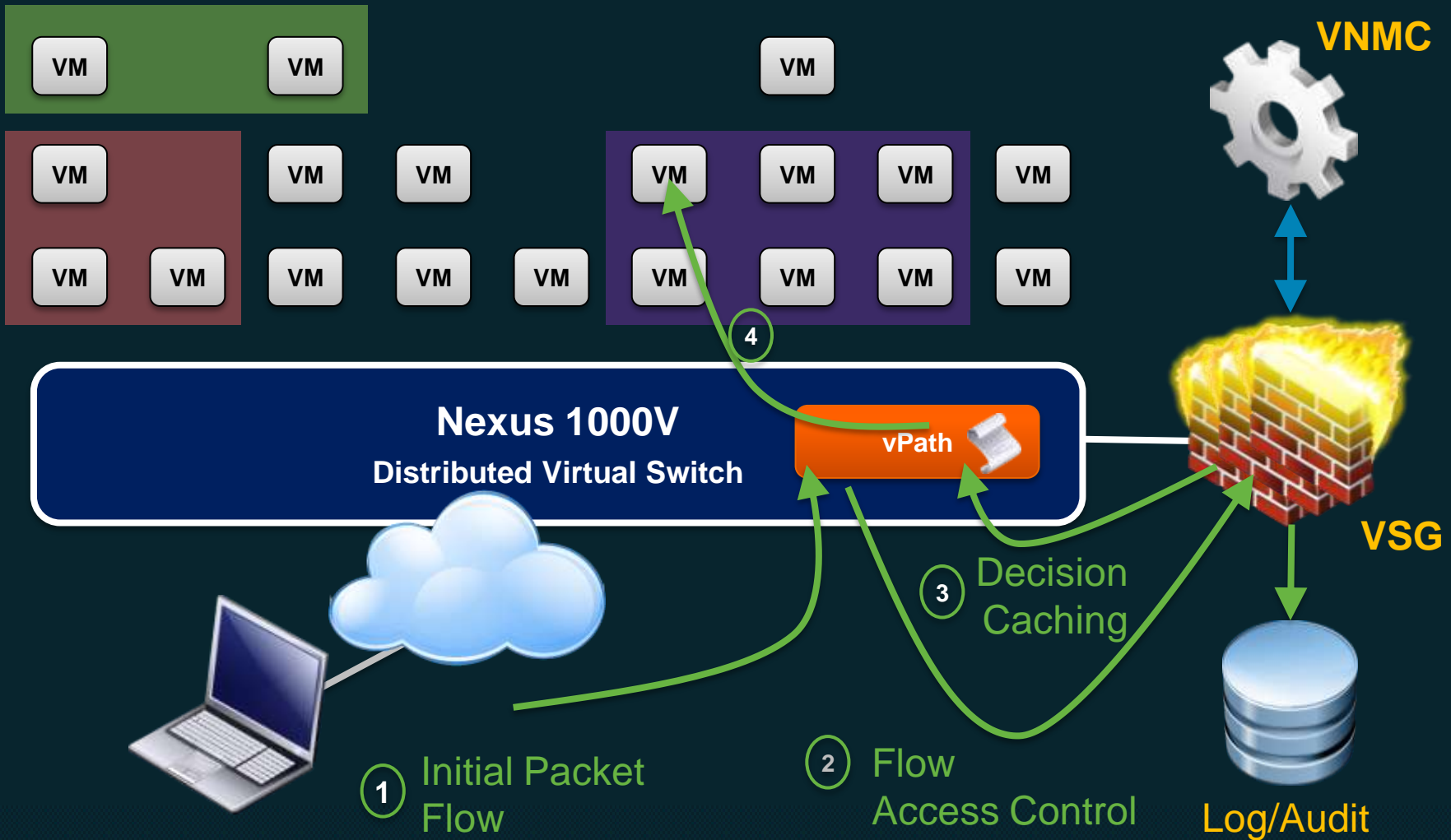
Security

- Policy traversal
- Secure application traversal
- vMotion aware
- Secure VM segmentation
- Secure Cloud segmentation

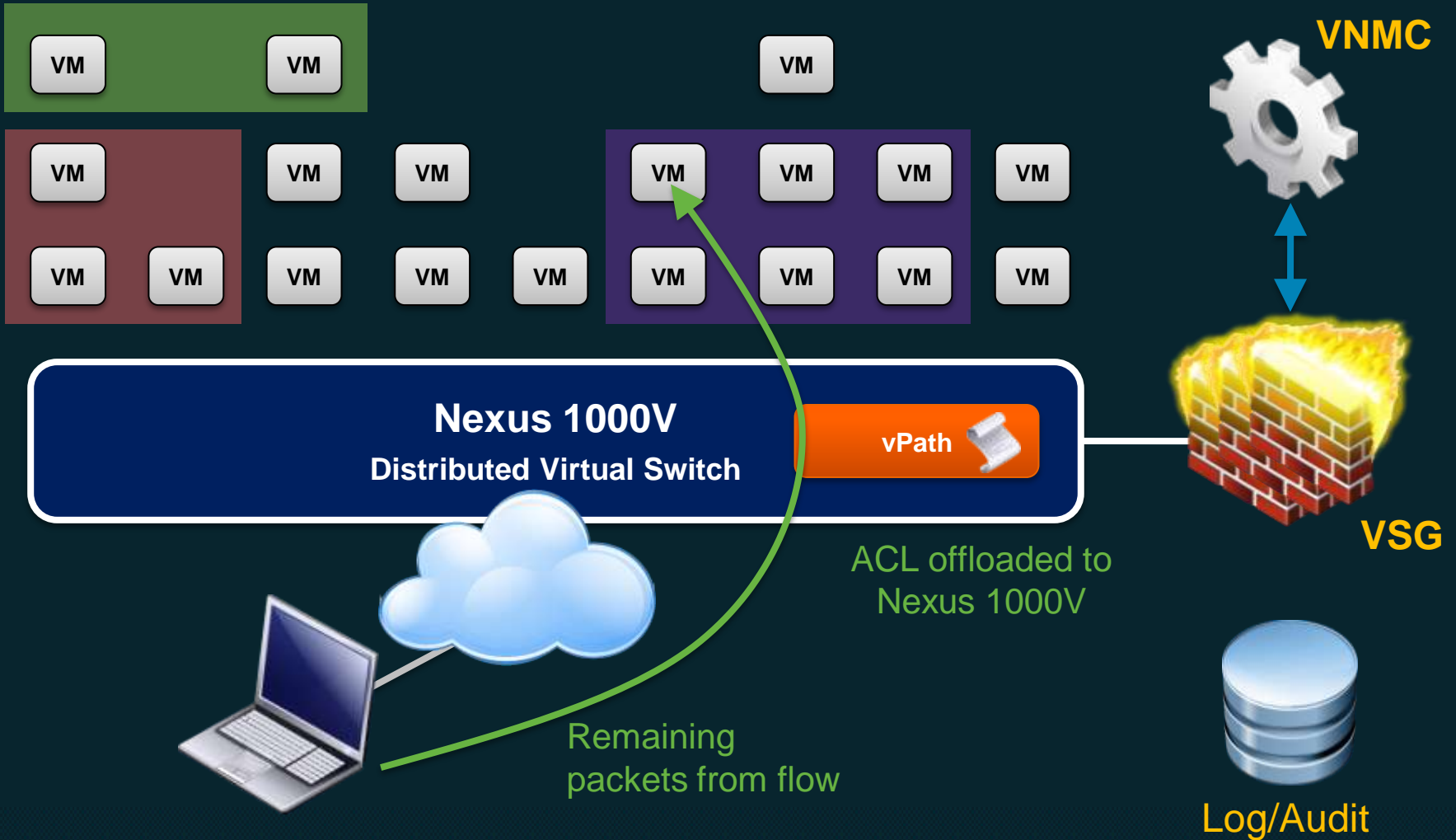


Span physical and virtual workloads
Span private and public clouds

VSG: Intelligent Traffic Steering with vPath



VSG: Performance Acceleration with vPath



Cisco Virtual Security Gateway

Features

Secure segmentation
with zone-based firewall

VM-level granularity
with context-aware rules

Virtual Network
Management Center:
Policy-based centralized
management



Virtual Security
Gateway on
Nexus 1000V
with vPath

Operational
simplicity

Deployment
flexibility

Consistent security
policy compliance
and auditing

Business Benefits

Scale

Span

Simplicity

Security



AnyConnect Secure Mobility

Always On

Hybrid Enforcement



TrustSec

Network Integrated



Edge

Always-On Web security
 On-prem (Cisco Web Security Appliances)
 Cloud-based (ScanSafe)
 Identity and Application-aware

Multi-platform

Windows 7/XP
 MAC OS-X
 Linux
 Windows Mobile
 iPhone/iPad/Android

Data Center

Always-On Application Access
 Multi-protocol Tunneling (SSL/IPsec/DTLS)
 802.1x support
 Layer 2 supplicant
 MACsec support
 VDI/VXI solution

Scale

Span

Simplicity

Security

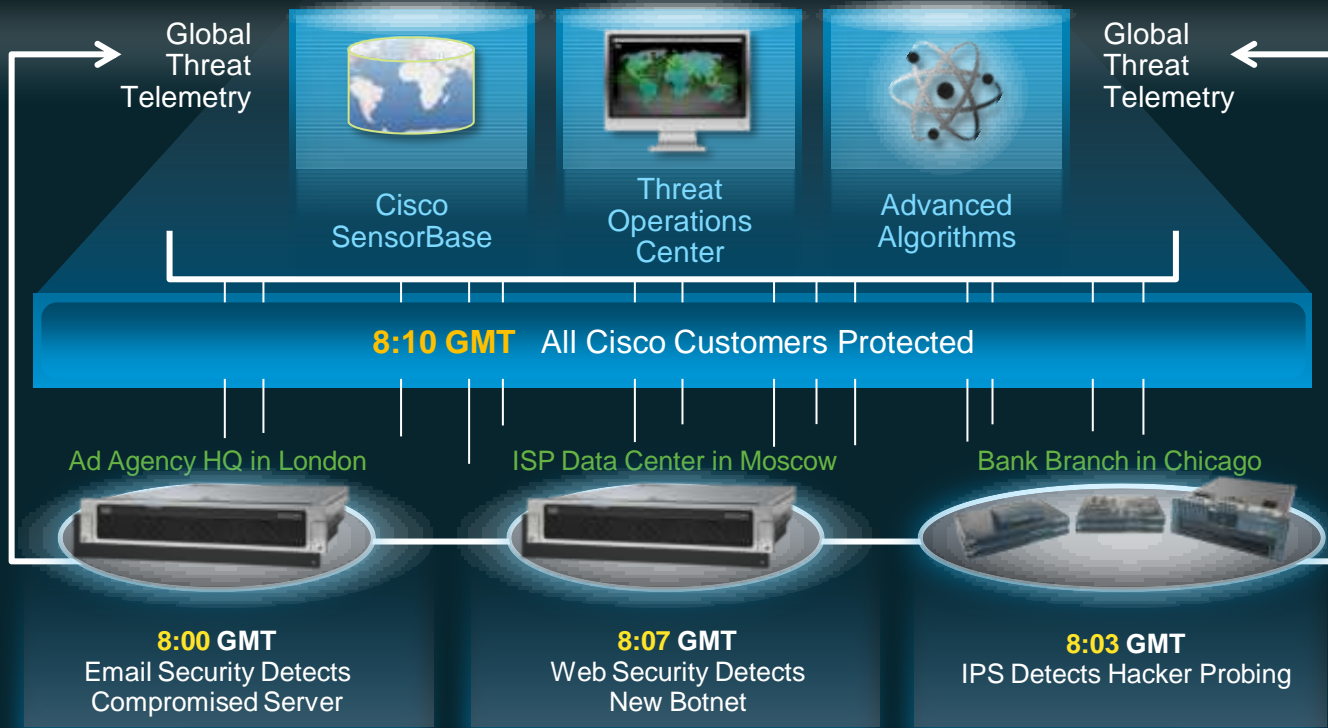


User Aware

Location Aware

Device Aware

Cisco Security Intelligence Operations



90% of published security advisories
 90% of published security bulletins
 90-minute response time



SIO

1 TB

DATA RECEIVED PER DAY

700,000+

GLOBALLY DEPLOYED DEVICES

5B

WEB REQUESTS

HTTP://

100M

EMAIL MESSAGES



35%

WORLDWIDE TRAFFIC



SensorBase

Threat Operations Center

Dynamic Updates

Scale

Span

Simplicity

Security

Advanced
Persistent
Threats



SECURITY INTELLIGENCE OPERATIONS

Proactive Threat Protection

Firewall Evolution



IP & Ports



Applications &
Users



Full Context-
Awareness

Phase 1

Phase 2

Phase 3

Full Context





CFO



ERP



Allowed





CFO



ERP



Android
Possible infection



Remote



Concurrent
HQ Login



Denied

Scale

Span

Simplicity

Security

Unified Management

Unified Management

Classic
Enforcement

Context-Aware
Enforcement





Cisco Secure Data Center

Scale

ASA 5585-X



Span

Virtual Security Gateway



Simplicity

AnyConnect
TrustSec



Security

Cisco SIO





Thank you.