



CONOVA S-DAY 2021

Data Center Networking Next Generation

Norbert Zehetner

Technical Solutions Architect

nzehetne@cisco.com

Cisco ACI

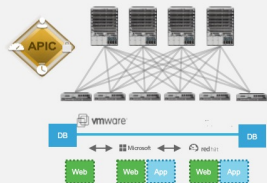
Application Centric Infrastructure

Turnkey, multi-cloud
solution

Built-in whitelist
segmentation and security

Built-in L4-7
services integration

Application Centric Infrastructure



Cisco Confidential

Network automation

- ✔ Intent-based networking
- ✔ Open APIs
- ✔ Assurance and insights
- ✔ Tenant isolation
- ✔ Open source tools:
**Ansible, Terraform,
YANG NSO**

NX-OS

DCNM

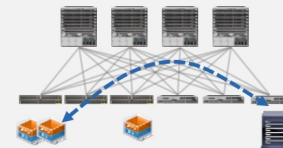
Data Center Network Manager

Programmable network
for EVPN VXLAN fabric

Network slicing

Full function LAN and SAN
network management

Programmable Fabric



Cisco ACI

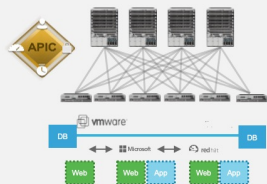
Application Centric Infrastructure

Turnkey, multi-cloud
solution

Built-in whitelist
segmentation and security

Built-in L4-7
services integration

Application Centric Infrastructure



Cisco Confidential

Network automation

- ✔ Intent-based networking
- ✔ Open APIs
- ✔ Assurance and insights
- ✔ Tenant isolation
- ✔ Open source tools:
**Ansible, Terraform,
YANG NSO**

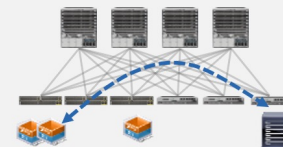


Programmable network
for EVPN VXLAN fabric

Network slicing

Full function LAN and SAN
network management

Programmable Fabric



DC Switching Hardware

Three Core Platforms

Nexus

Nexus 9000
10/25/40/50/100/400G

MDS

SAN FC Switching

MDS 9000 (SAN/FC Switching)
32/64G

ULL

Ultra-low latency

Nexus 3500 Series

Nexus NIC (FPGA)

Cisco Nexus 9000 Fixed Cloud Scale 1/10/25G Switches

Nexus 9300 FX3

48p 100M/1/10GT + 6p 40/100G

Nexus 93108TC-FX3P



48p 1/10/25G SFP + 6p 40/100G

Nexus 93180YC-FX3



Nexus 9300 FX2

96p 100M/1/10GT + 12p 40/100G

Nexus 93216TC-FX2



48p 1/10/25G SFP + 12p 40/100G

Nexus 93240YC-FX2



96p 1/10/25G SFP + 12p 40/100G

Nexus 93360YC-FX2



Nexus 9300 FX

48p 100M/1/10GT + 6p 40/100G

Nexus 93108TC-FX



48p 1/10/25G + 6p 40/100G

Nexus 93180YC-FX



48p 100M/1GT + 4p 1/10/25G + 2p 40/100G

Nexus 9348GC-FXP



Nexus 9200

48p 100M/1GT + 4p 1/10/25G + 2p 40/100G

Nexus 92348GC-X



Nexus 9300 High Density 400G Switches



64p 400G + 2p 1/10G

16p MACSEC/CloudSec

Nexus 9364D-GX2A



32p 400G + 2p 1/10G

8p MACSEC/CloudSec

Nexus 9332D-GX2B



48p 400G + 2p 1/10G

Nexus 9348D-GX2A

Now Shipping



Nexus 93600CD-GX

28p 100G + 8p 400G

Nexus 9316D-GX

16p 400G



Cisco Nexus 9300 Cloud Scale 40/100/400G Switches

400G/100G
ACI Leaf/Spine*

32p 400G + 2p 10G

Nexus 9332D-GX2B

Q3CY21



48p 400G + 2p 10G

Nexus 9348D-GX2A

CY22



64p 400G + 2p 10G

Nexus 9364D-GX2A

CY22



16p 40/100/400G

Nexus 9316D-GX



28p 40/100G & 8p 40/100/400G

Nexus 93600CD-GX



64p 40/100G

Nexus 9364C-GX



32p 40/100G

Nexus 9332C



64p 40/100G

Nexus 9364C



36p 40/100G

Nexus 9336C-FX2



36p 40/100G

Nexus 9336C-FX2-E

Orderable



Cisco Nexus 9300 Cloud Scale Fixed Portfolio

	NX-OS	ACI	MACSec	CloudSec	Telemetry	400G
Nexus 9300 GX2	✓	✓	✓	✓	FT FTE SSX INT-XD	✓
Nexus 9300 GX	✓	✓			FT FTE SSX INT-XD	✓
Nexus 9300 FX2	✓	✓	✓	✓	FT FTE SSX	
Nexus 9300 FX3	✓	✓	✓	✓	FT FTE SSX	
Nexus 9300 FX	✓	✓	✓		FT FTE	
Nexus 9300 EX	✓	✓			FT	
Nexus 9200	✓					

ACI – Application Centric Infrastructure



Cisco Application-Centric Infrastructure



Optimizes Your Network

Single point for configuration and troubleshooting

Full network and security automation

Scale within and across data centers and geographies

Seamless integration of underlay and overlay networks optimizes management overhead

Open APIs enable an integrated ecosystem to protect your investment



Cisco Application-Centric Infrastructure



Accelerates Journey to Multi-cloud

Single policy and seamless connectivity
across any data center and public cloud

Any hypervisor, any workload,
any activity, any cloud



Private cloud automation: vRealize,
AzurePack, OpenStack, UCS

Public cloud extensions to AWS,
Azure, Google cloud

Application Centric Infrastructure Building Blocks







Built on the Nexus 9000

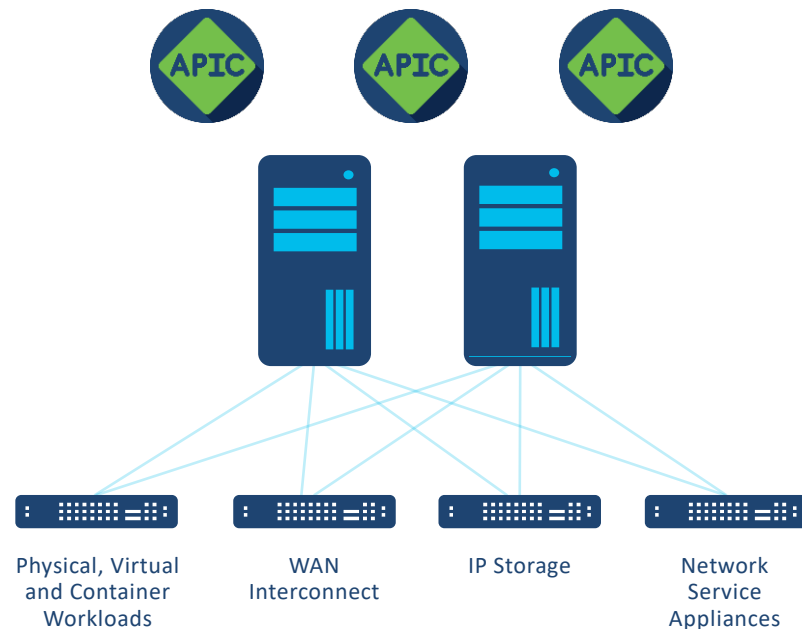
APIC

-  Centralized Policy Model
-  Open API for Entire System

Nexus 9000

Industry Leading:

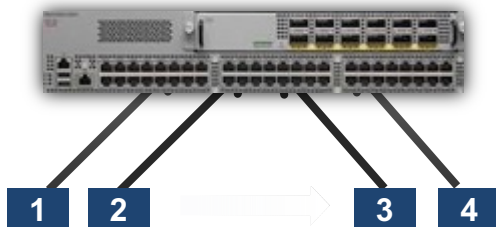
-  Price
-  Performance
-  Port-density
-  Programmability
-  Power Efficiency
-  Visibility and telemetry



ACI Whitelist Policy supports “Zero Trust” Model

TRUST BASED ON LOCATION

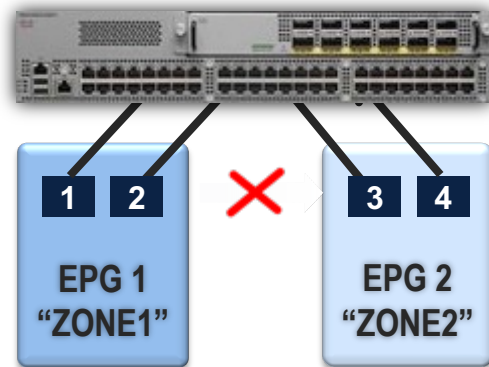
(Traditional DC Switch,
ACI network centric mode)



Servers 2 and 3 can
communicate unless **blacklisted**

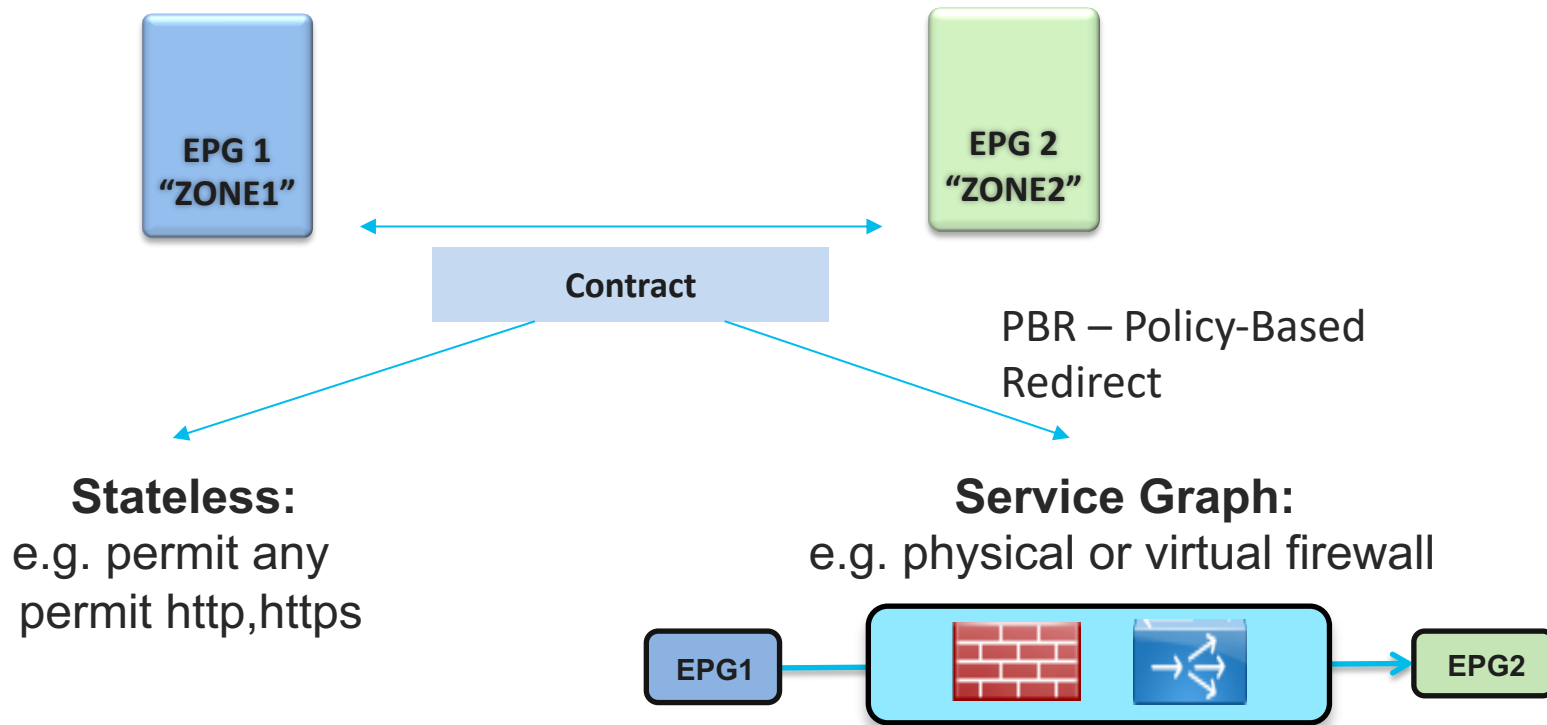
ZERO TRUST ARCHITECTURE

(ACI application centric mode)

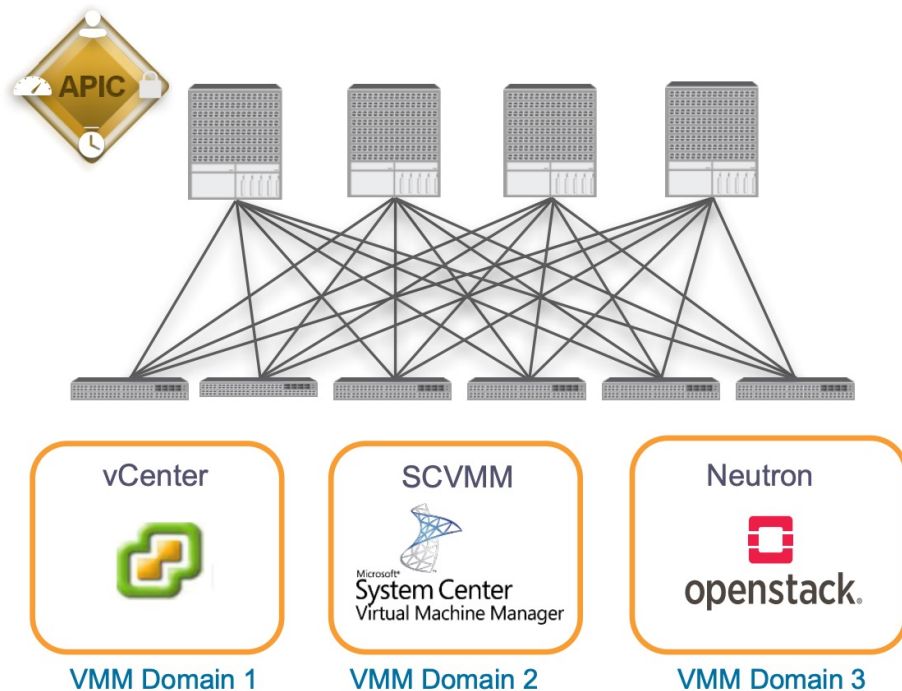


No communication allowed between
Servers 2 and 3 unless there is a **whitelist policy**

Whitelist Policy



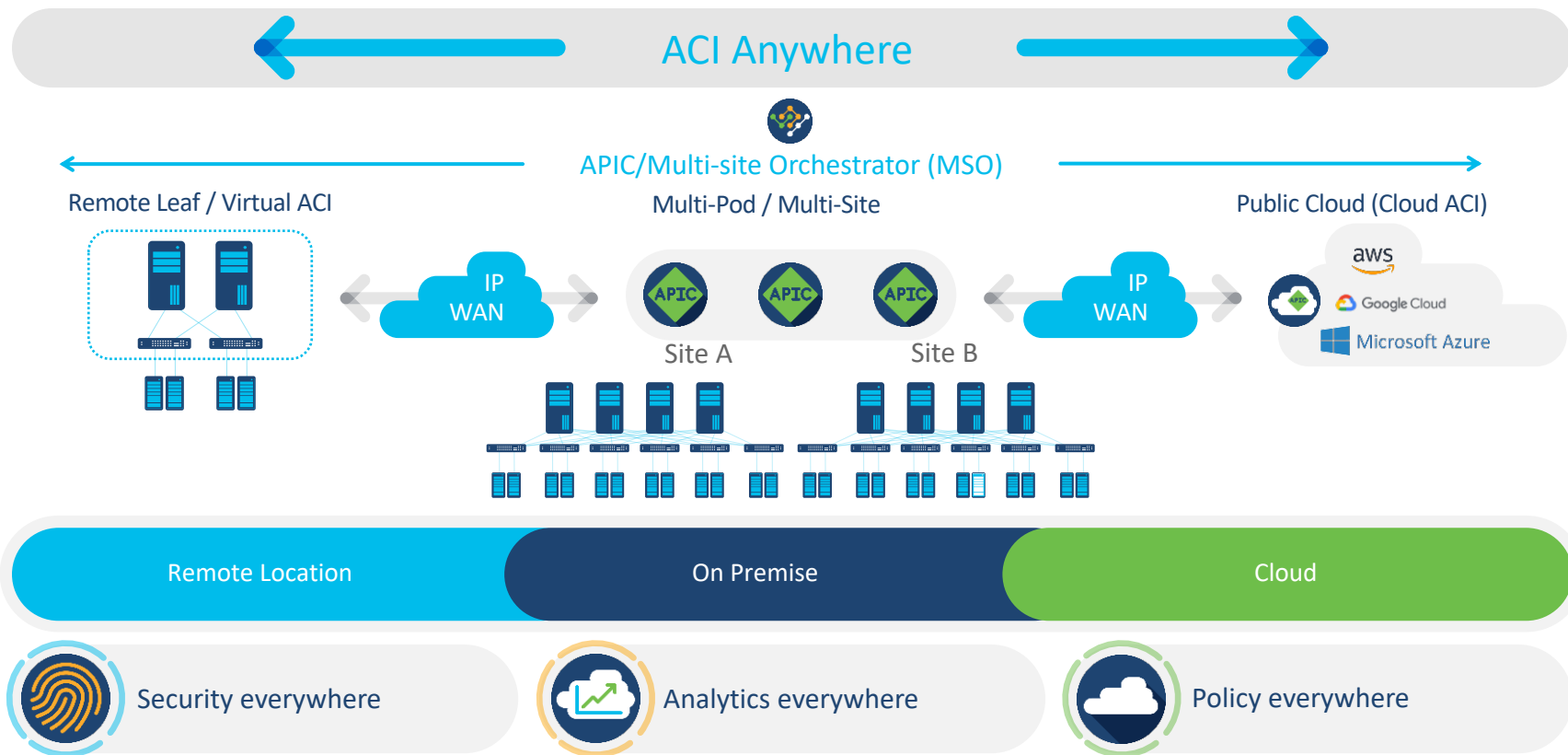
Virtual Machine Manager Domains (VMM)



- Relationship is formed between APIC and Virtual Machine Manager (VMM)
- Multiple VMMs likely on a single ACI Fabric
- 1:1 relationship between a Virtual Switch and VMM Domain

Cisco ACI Anywhere

Any Workload, Any Location, Any Cloud

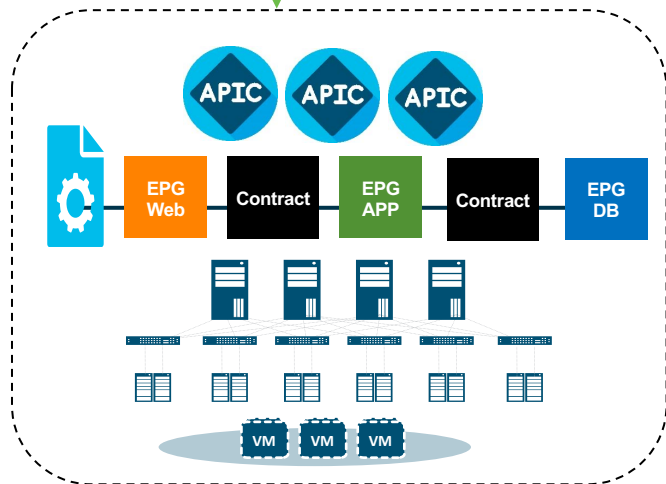


ACI Extension to Cloud



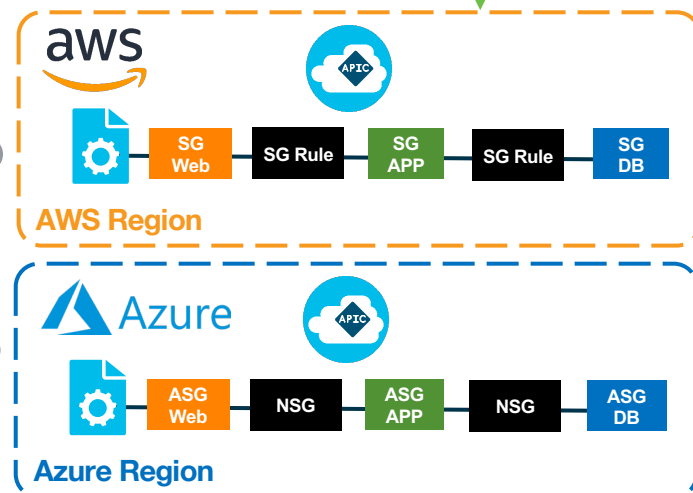
Multi-Site

On-Premises DC



Consistent Policy Enforcement
on-Premises & Public Cloud

Public Clouds



Automated Inter-connect
provisioning

Simplified Operations
with end-to-end visibility

