



De nieuwe desktop: virtueel, multimediaal, schaalbaar en eenvoudig met Cisco

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Collaborative
workspace

Unified Computing

Network as the Platform

Virtualisation
Architecture

Virtual eXperience
Infrastructure



Cisco's Architectural Approach



Collaboration

Datacenter/
Virtualization

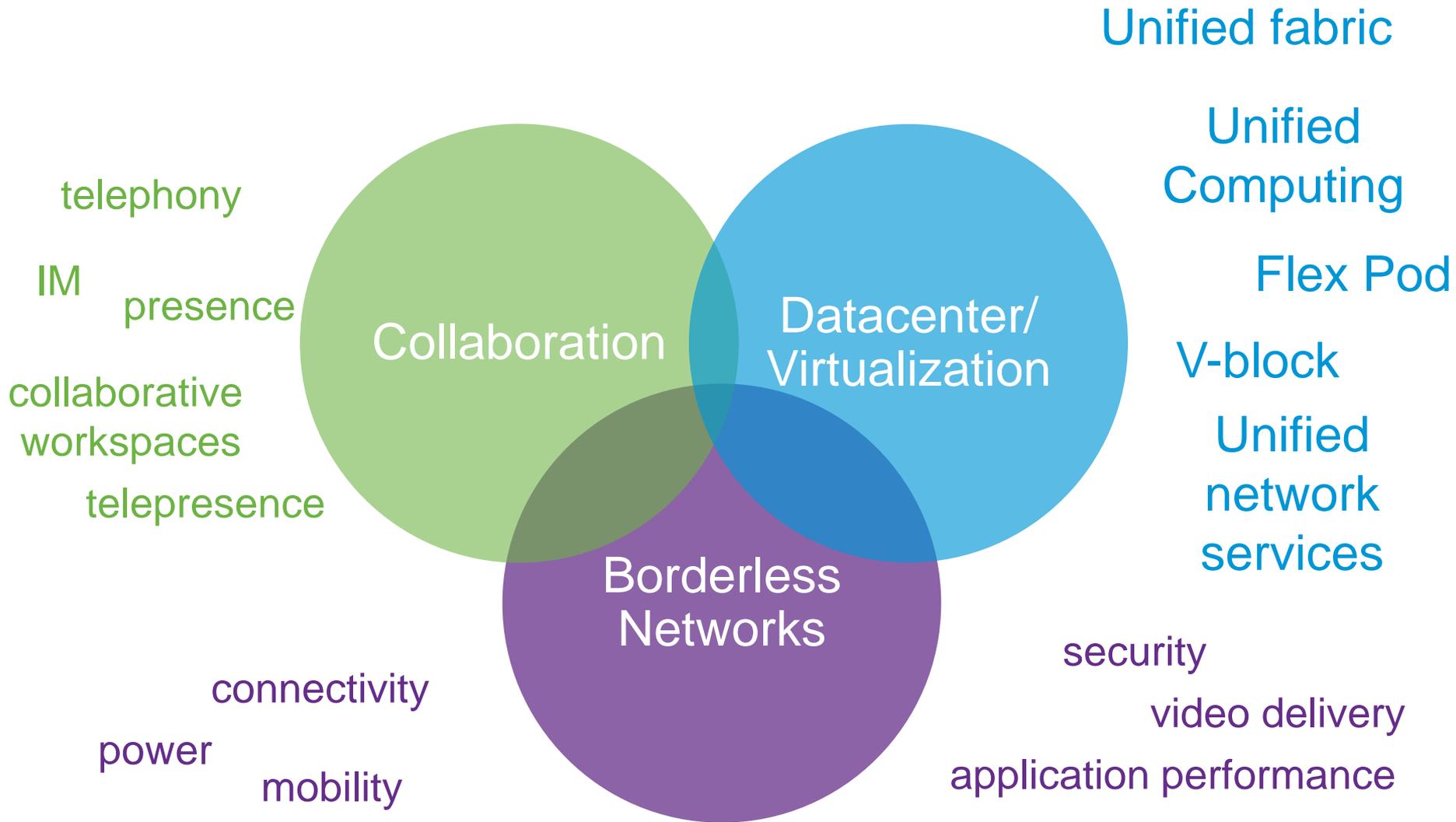
Borderless
Networks



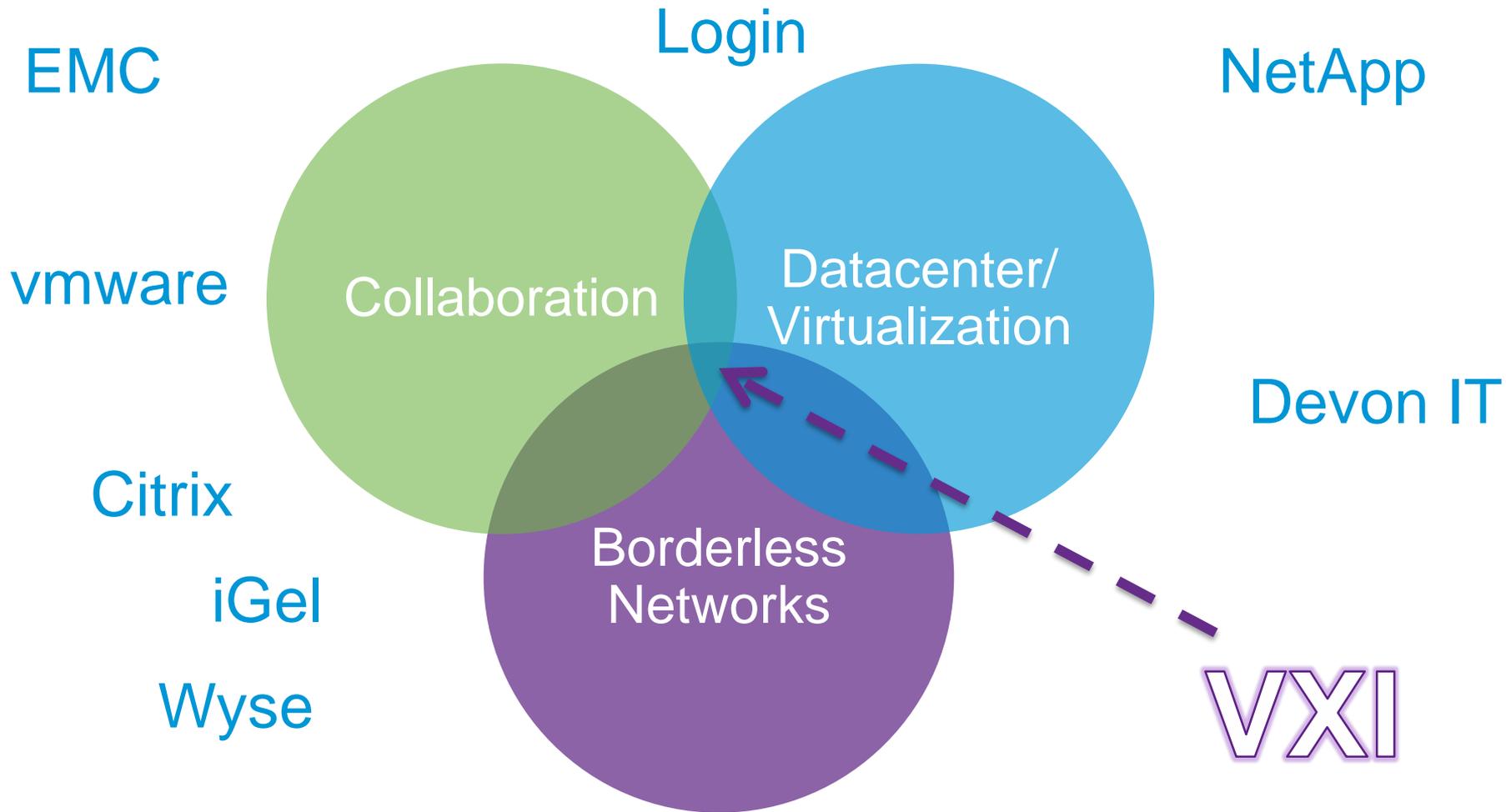
vmware™



Network as the Platform



Virtual eXperience Infrastructure



Cisco's Vision for VXI

**DELIVER A SUPERIOR COLLABORATION
AND RICH MEDIA USER EXPERIENCE
WITH BEST IN CLASS ROI
FROM A FULLY INTEGRATED, OPEN AND VALIDATED
DESKTOP VIRTUALIZATION SOLUTION**

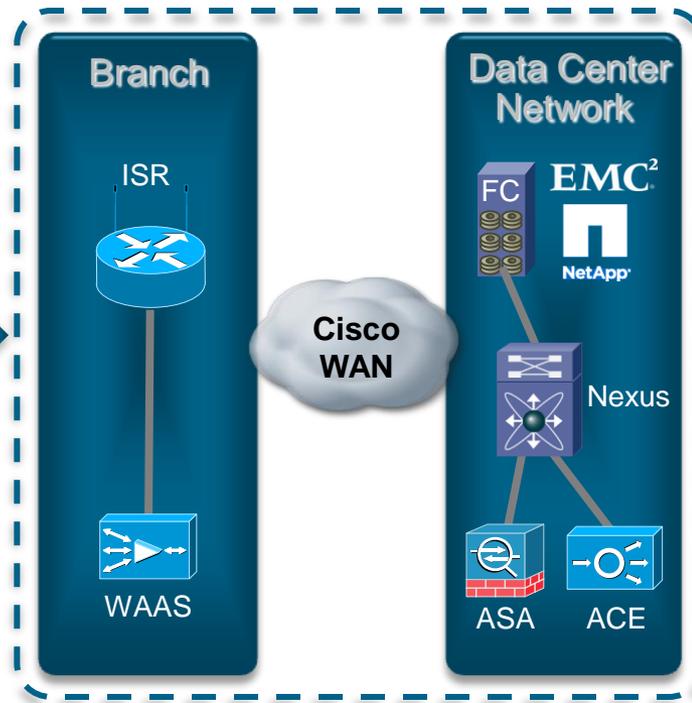


Cisco VXI Virtualized End-to-End System

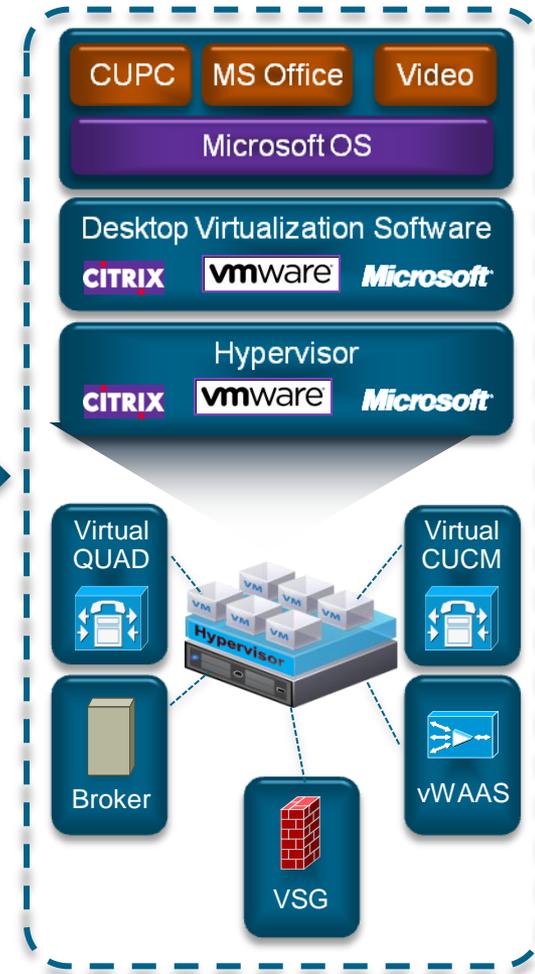
Virtualized Collaboration Workplace



Virtualization Aware Network

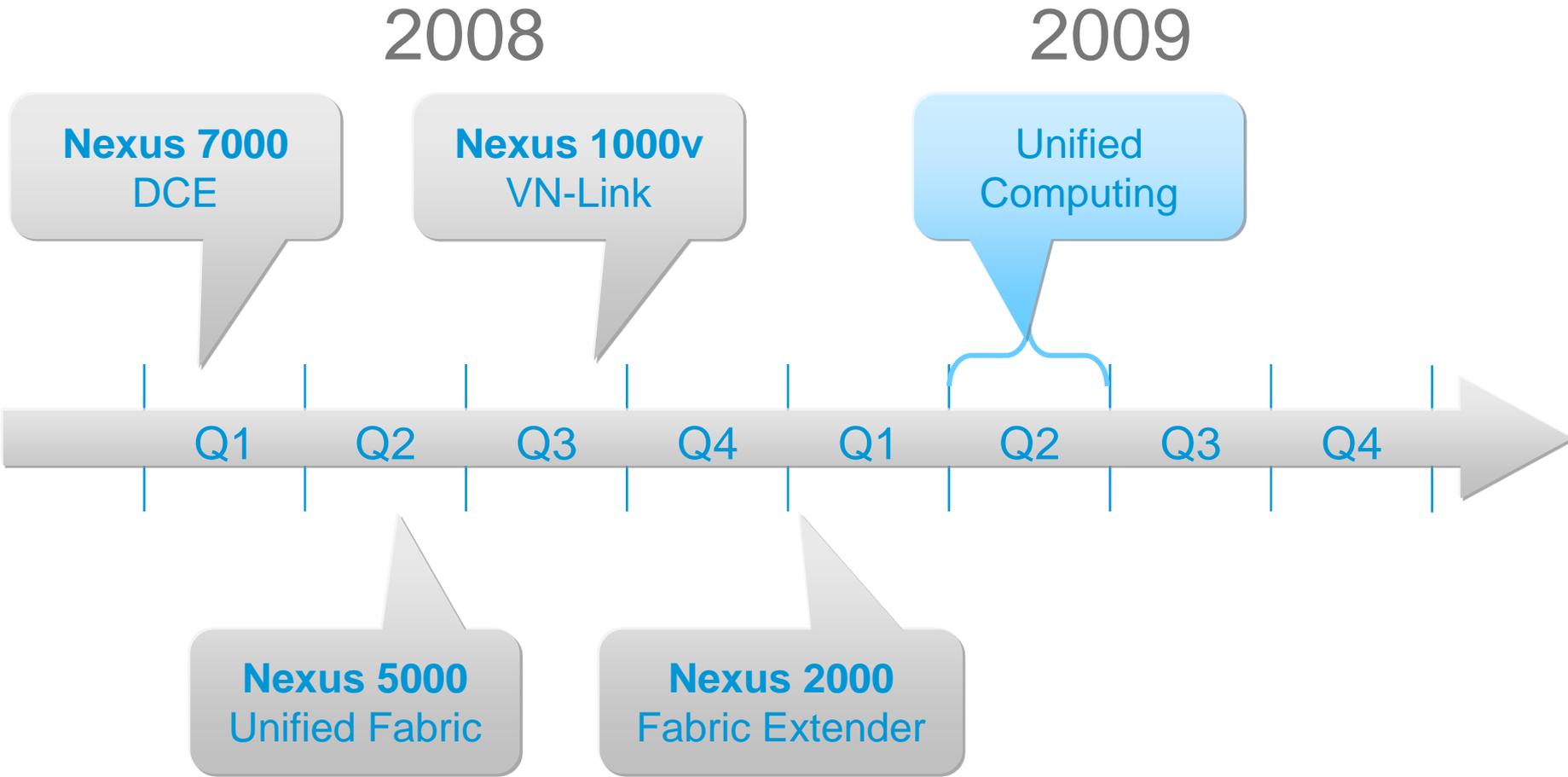


Virtualized Data Center



End-to-End Security, Management and Automation

Technology Introduction Timeline

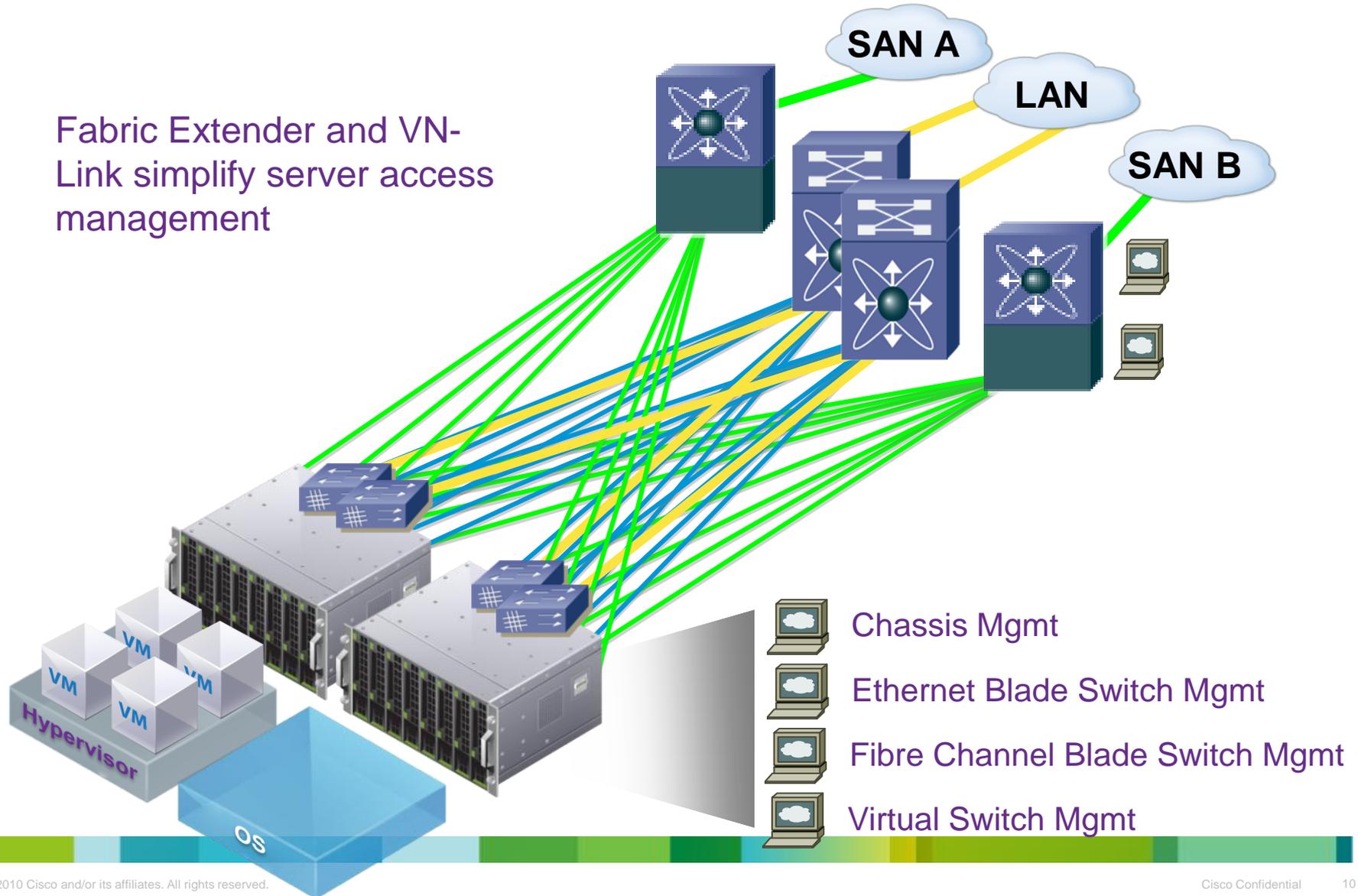


Example of scalable infrastructure architecture



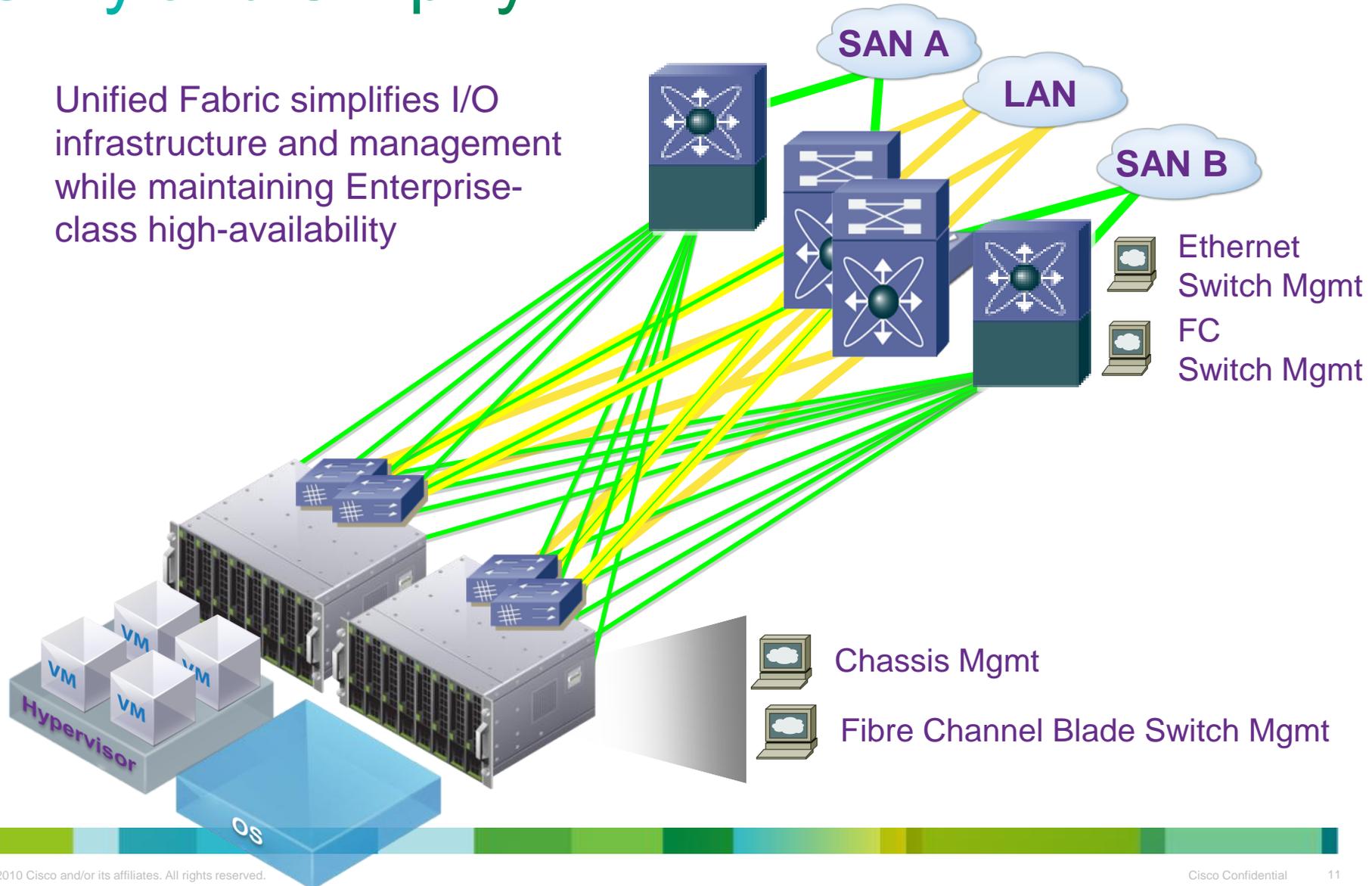
Unify and Simplify

Fabric Extender and VN-Link simplify server access management



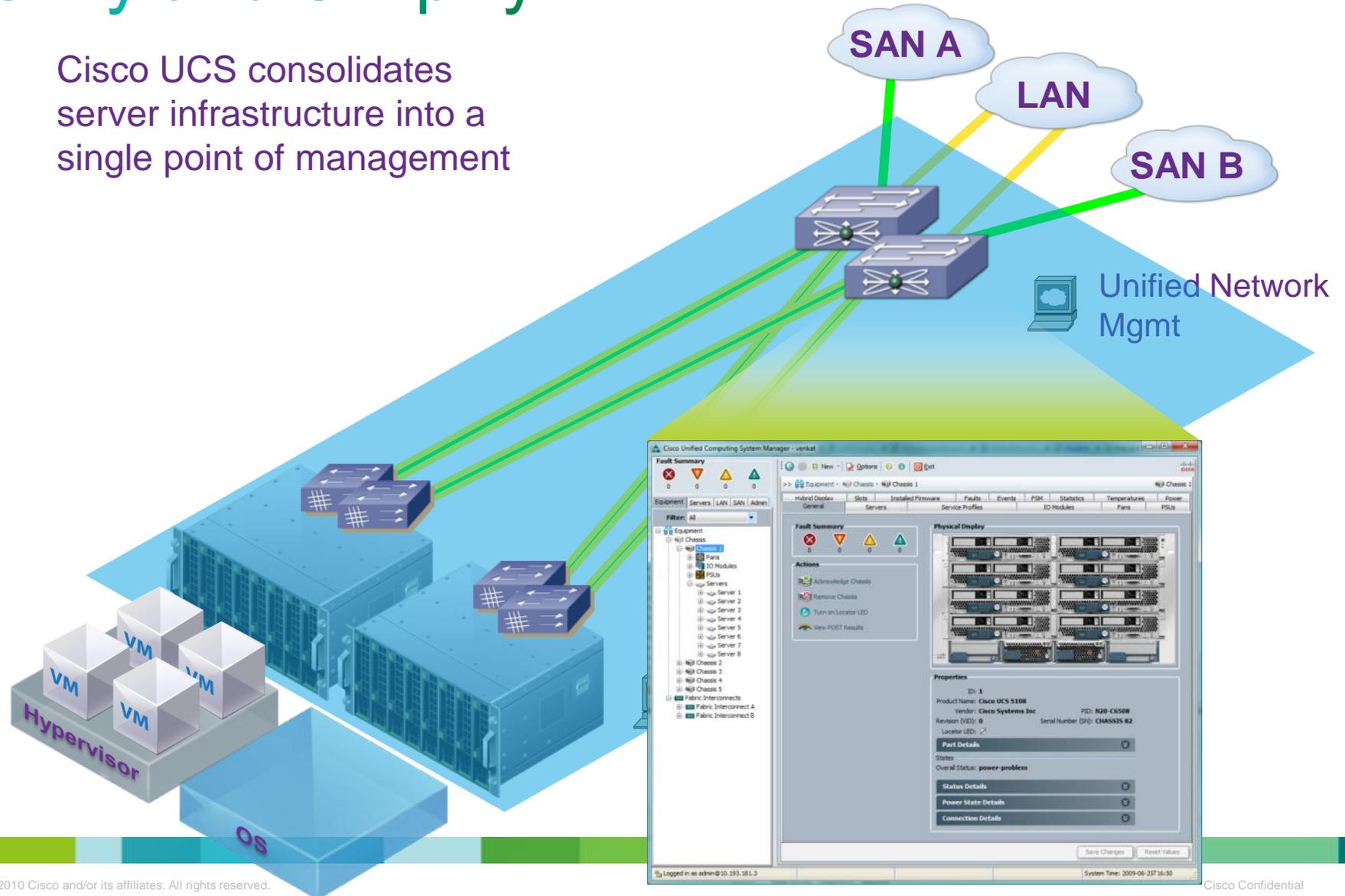
Unify and Simplify

Unified Fabric simplifies I/O infrastructure and management while maintaining Enterprise-class high-availability



Unify and Simplify

Cisco UCS consolidates server infrastructure into a single point of management



Unified Computing System

A single system that unifies

- Compute: Industry standard x86
- Network: Unified fabric
- Virtualization: Control, scale, performance
- Storage Access: Wire once for SAN, NAS, iSCSI

Embedded management

- Increase scalability without added complexity
- Dynamic resource provisioning
- Ability to integrate with broad partner ecosystem

Energy efficient

- Fewer servers, switches, adapters, cables
- Lower power and cooling requirements
- Increase compute efficiency by removing I/O and memory bottlenecks



Modular Building Blocks

UCS Manager

Embedded– manages entire system



UCS Fabric Interconnect

20 Port 10Gb FCoE

40 Port 10Gb FCoE



UCS Fabric Extender

Remote line card



UCS Blade Server Chassis

Flexible bay configurations



UCS Compute Options

Industry-standard architecture



UCS Virtual Adapters

Choice of multiple adapters



Cisco VIC for *Offers Significant Benefits*

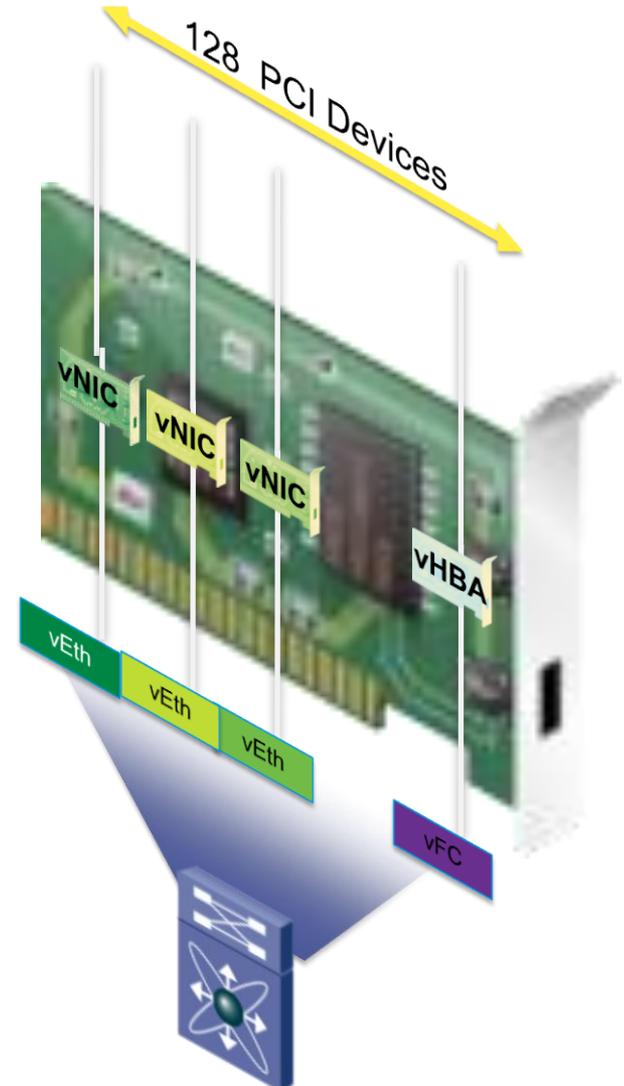
PCIe standards compliant adaptor

- Ideal PCIe adapter for both single-OS and Hypervisors
- Ideal for consolidating multiple adaptors into one
- Network Interface Virtualization capable (Static Interfaces)
- VN-link capability with UCS Integration

CUSTOMER BENEFITS

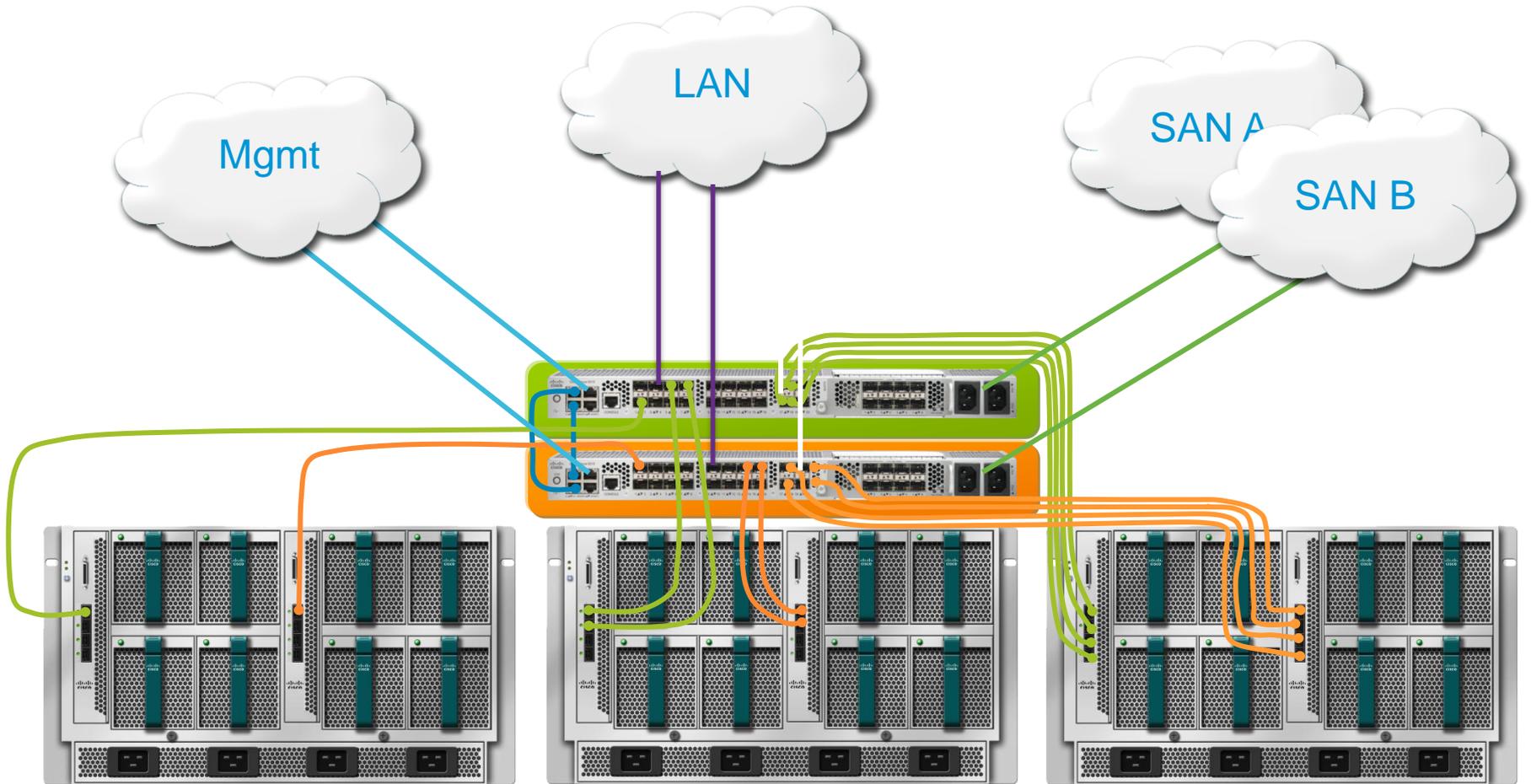
Ideal for multi-NIC/ stateless computing environment

Perfect for Virtualization environment



- 2x10Gb, Unified Fabric
- x8 PCIe Gen 2, Full Height, Half Length adapter
- Two SFP+ 10Gbps external ports (supports SFP+ copper)

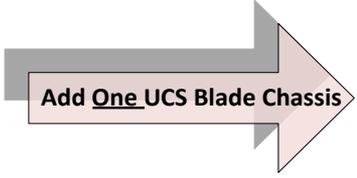
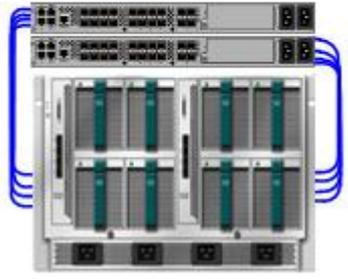
Overall System Topology



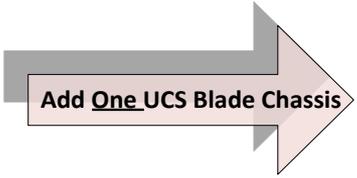
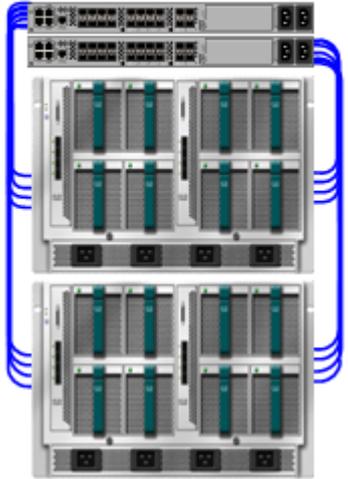
Cisco UCS:

A single, logical, expandable blade server chassis

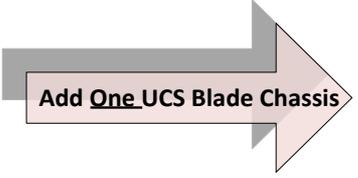
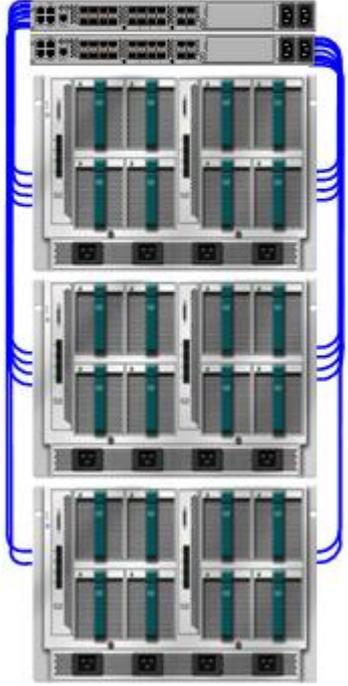
8 Cisco UCS Blades
1 UCS Manager
3 Management IP Addresses



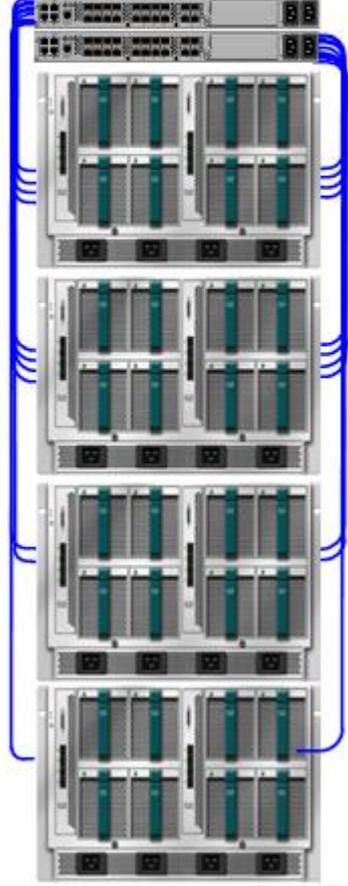
16 Cisco UCS Blades
1 UCS Manager
3 Management IP Addresses



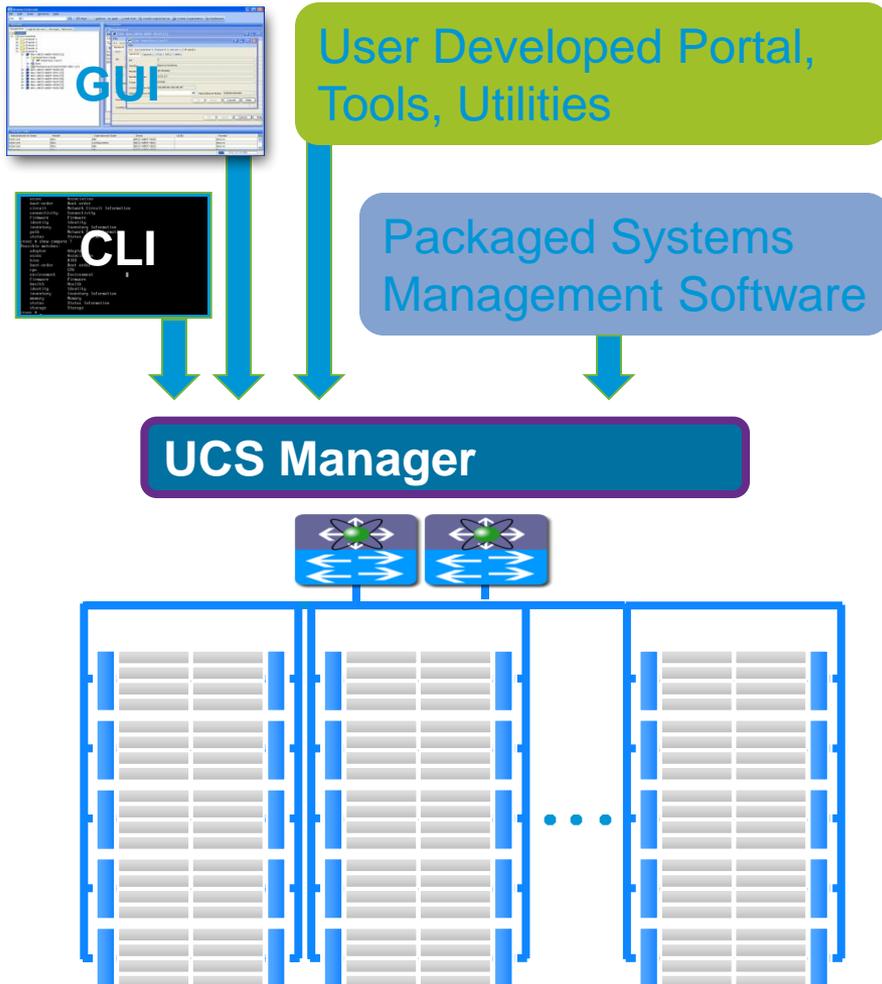
24 Cisco UCS Blades
1 UCS Manager
3 Management IP Addresses



32 Cisco UCS Blades
1 UCS Manager
3 Management IP Addresses



UCS Manager



- **Embedded device manager**
Discovery, Inventory, Monitoring, Diagnostics, Statistics Collection, Configuration
- **Unifies many UCS HW components into a single, cohesive, system**
Adapters, blades, chassis, fabric extenders, fabric interconnects
- **APIs for integration with new and existing data center infrastructure**
SMASH-CLP, IPMI, SNMP
XML SDK for commercial & custom implementations
- **Key Feature: Service Profiles**
Coordinated deployment to managed endpoints

UCS Service Profiles

Automated configuration of bare metal server and it's network connectivity

HW Traditional Managed as Individual Components

UCS B-Series Servers



UCS Adapters



UCS 2100 Series Fabric Extender



UCS 6100 Series Fabric Interconnect



UCS Service Profile
Unified Device Management

BIOS Version, BIOS Settings, RAID controller settings, UUID, Server Selection (Explicit or Pool)

NIC Firmware version, MAC Addresses, VLANs, QoS Settings, HBA Firmware version, WWNs

Fabric Extender is implicitly configured based on Server Slot and physical connectivity to Fabric Interconnect

Uplink port configuration, LAN Pinning, SAN Pinning, VLANs, VSANs, DCB Settings

UCS Momentum

2,800+

UCS CUSTOMERS

Jan2010: 400 April2010: 900
July2010: 1700 Oct2010: 2800

40+

ISV's and Partners

Developing to UCS via open API

10+

WORLD RECORDS

New application benchmark results

10,000+

APPLICATIONS

Supported on UCS

250+

UCS B-SERIES

Certified channel partners

\$500M

Revenue

Annualized run-rate per Oct2010

Cisco IT's Case Study– Summary

	Traditional	Unified Fabric	UCS
DC efficiency	100%	130-150%	130% 170-200%
10,000 sq ft, 1 MW			
Cabling	\$2.7 million	\$1.6 million	\$1.6 million
Physical Server Count	720	930 -1080	1200-1400
VM Count	7200	9300-10800	12000-28000

Notes: Assumes pre-UCS average V2P ratio of 10 to 1 and post UCS average ratio of 20 to 1 due to the memory expansion technology. Unified Fabric efficiency gains result from power optimization. UCS efficiency gains result from additional power benefits of UCS.

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Unified Computing

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Thank you.

