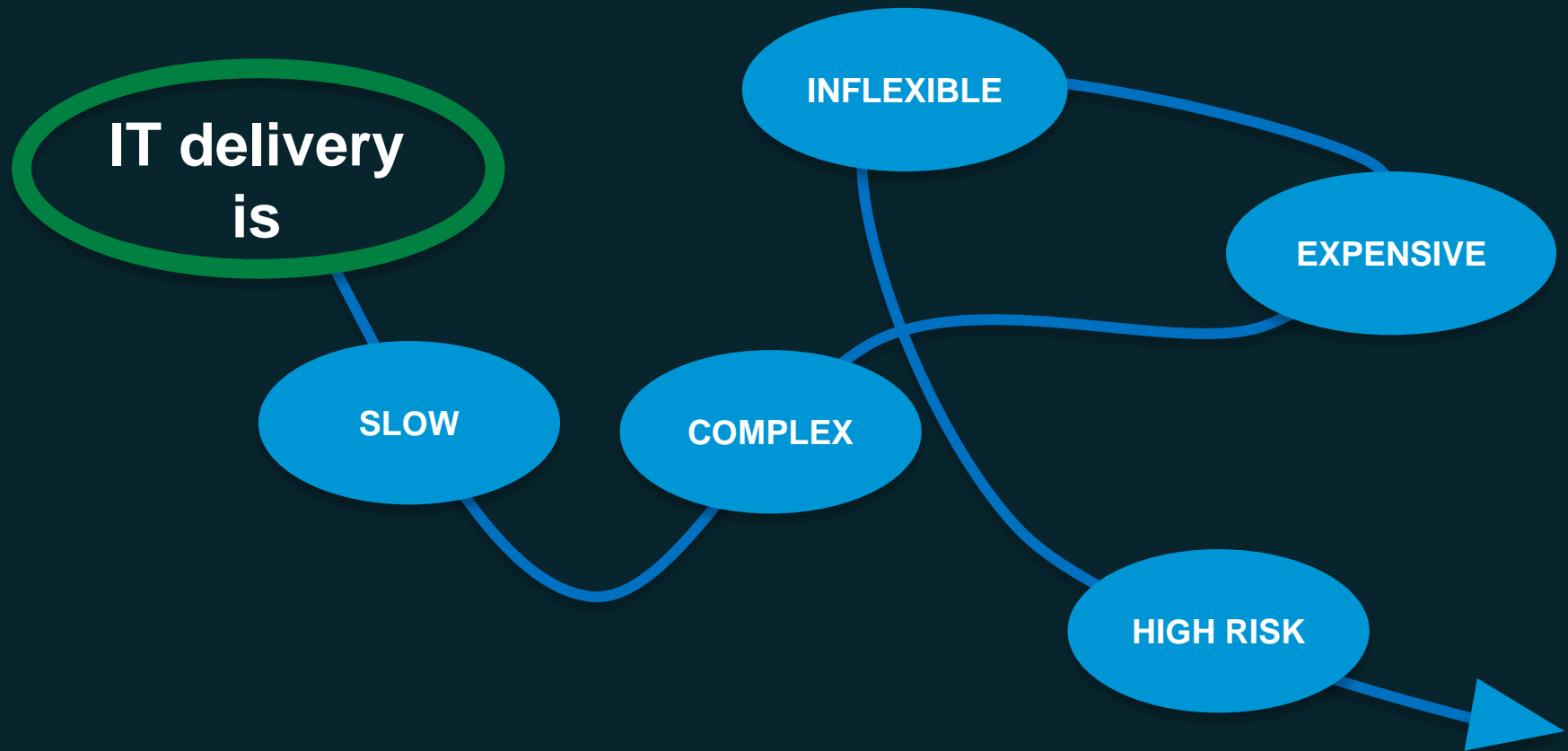# Cisco UCS

The Compute Platform for Virtualized Data Centers

Philipp Müller – phmuelle@cisco.com
Product Sales Specialist – Swiss DC Team

Oktober 2012

So What Happens?

IT delivery is

SLOW — **COMPLEX** — **INFLEXIBLE** — **EXPENSIVE** — **HIGH RISK**

Complexity in Traditional
Blade Server Environments
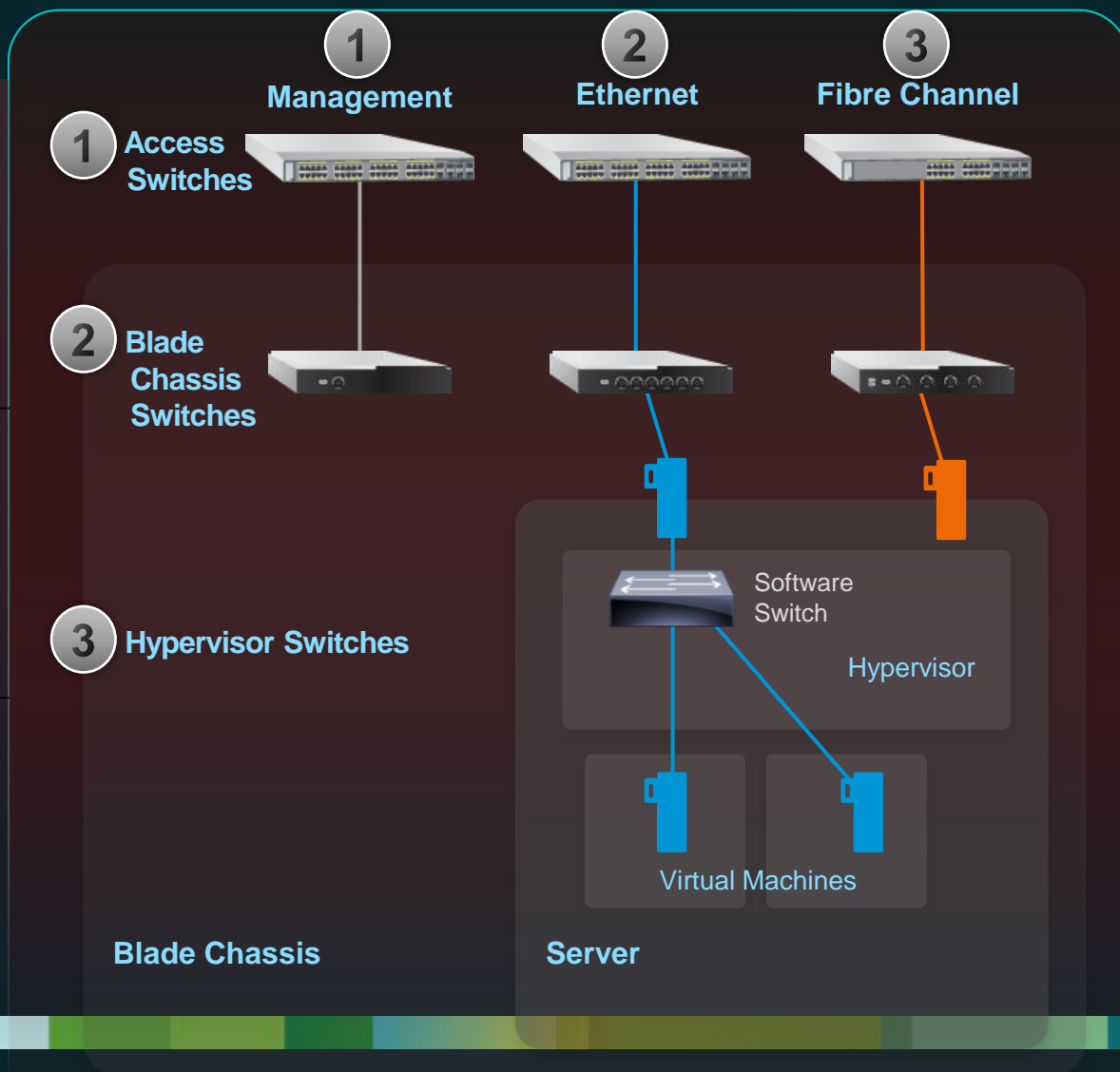
- Three parallel networks
  - Device proliferation
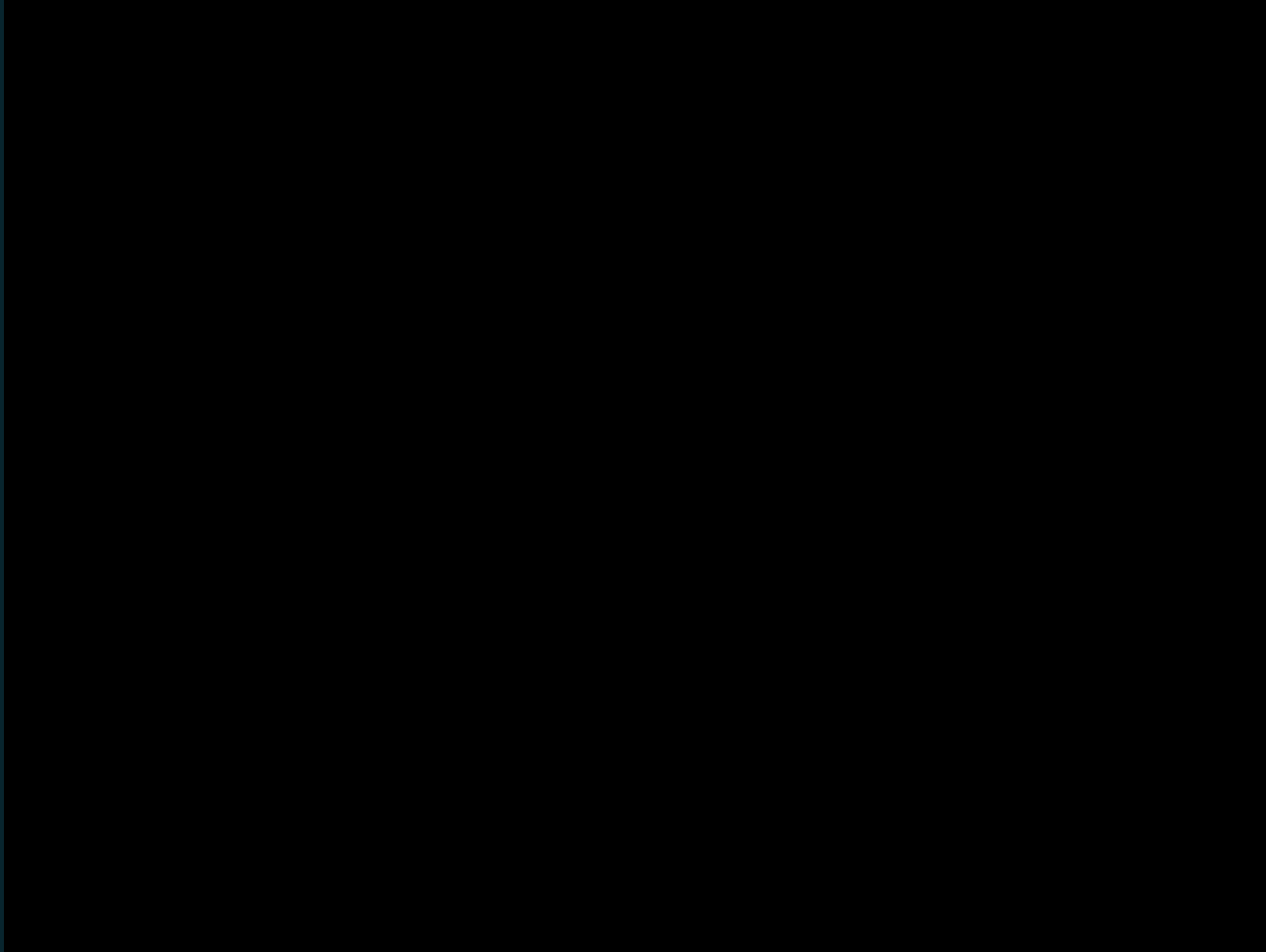 - Siloed bandwidth

- Access layer fragmented into three
  - Access layer
  - Chassis
  - Hypervisor

- Overly Complex
  - Too many devices
  - Too many cables
  - Too many management points

1 **Management** **2** **Ethernet** **3** **Fibre Channel**

1 **Access Switches**

2 **Blade Chassis Switches**

3 **Hypervisor Switches**

Software Switch

Hypervisor

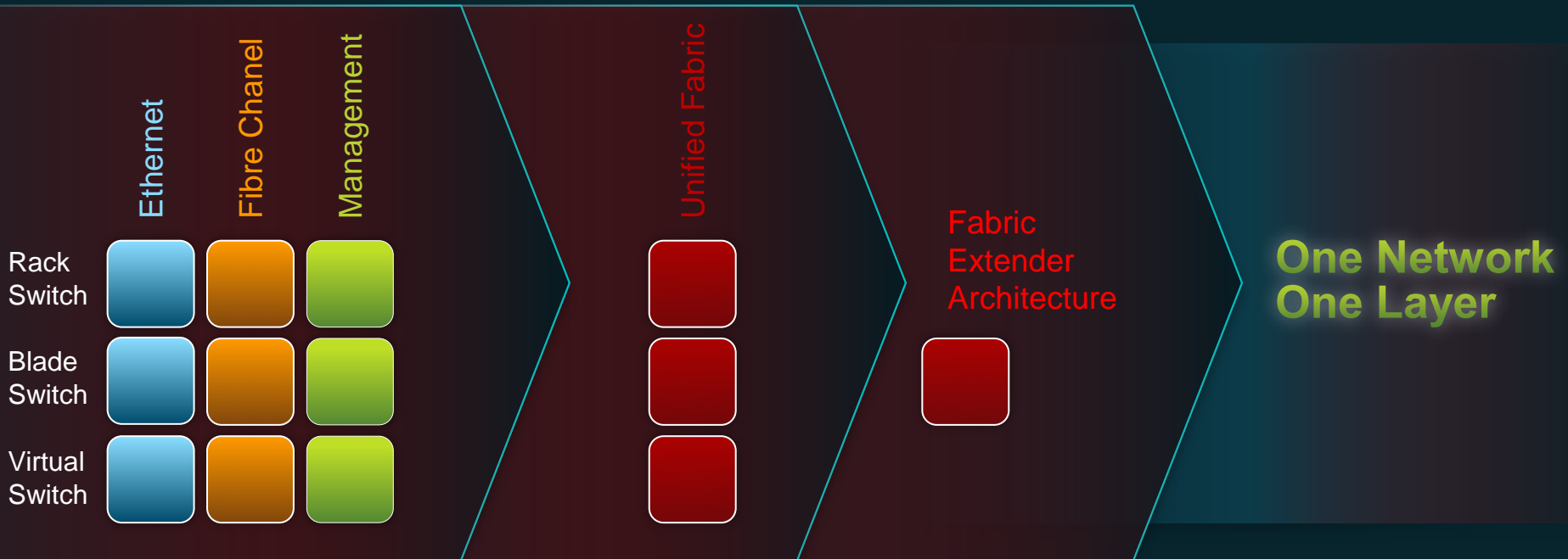Virtual Machines

Blade Chassis   **Server**

Complexity?

Unified Fabric in UCS and Nexus
Radically Simplified Network Access for Blades and VMs
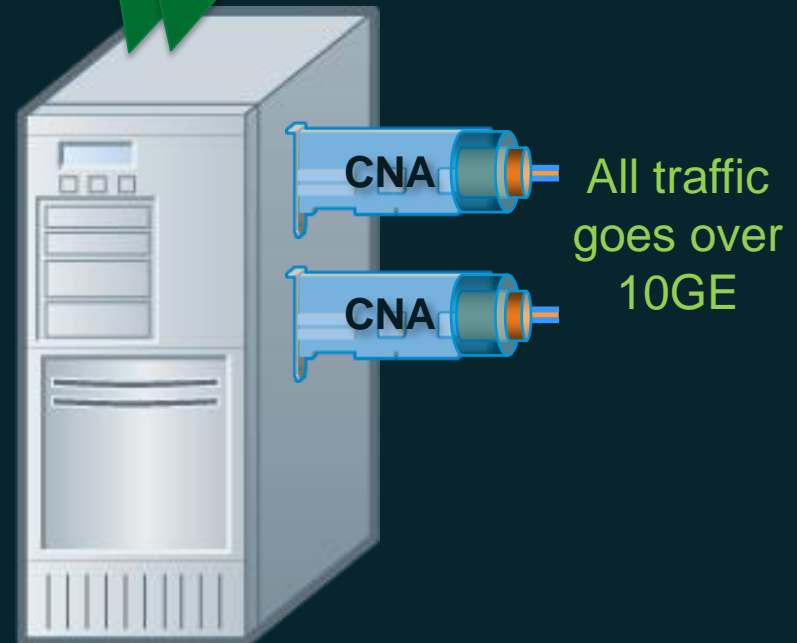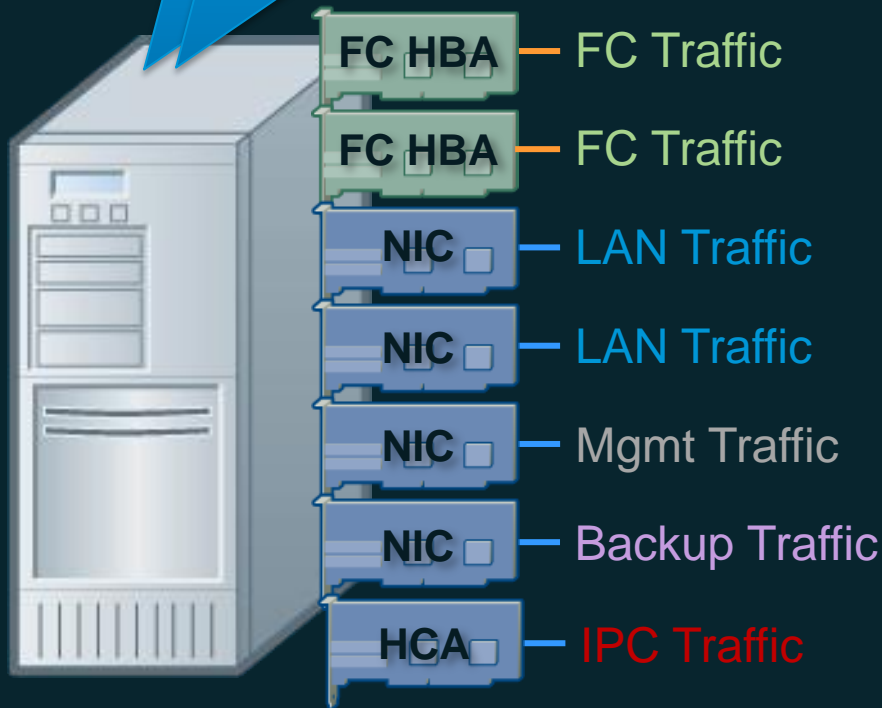

Unified Fabric

Cisco® Fabric Extender Architecture

Ethernet

Fibre Chanel

Management

Unified Fabric

Fabric Extender Architecture

One Network One Layer

Rack Switch

Blade Switch

Virtual Switch

Complexity in Traditional Environments

Consolidate with Unified Fabric
In UCS and Nexus

Complex to Manage Manual Handwork

Easy to Manage Done in Software

FC HBA — FC Traffic

FC HBA — FC Traffic

NIC — LAN Traffic

NIC — LAN Traffic

NIC — Mgmt Traffic

NIC — Backup Traffic

HCA — IPC Traffic

CNA

CNA

All traffic goes over 10GE

Simplify with Fabric Extender Architecture
In UCS and Nexus

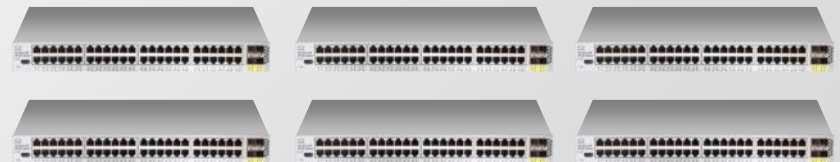**Single Point of Management**

Single Point of Management

Cross-bar & Supervisor

UCS Fabric Interconnects / Nexus 5500

+

Fabric Extenders
(Remote Line Cards)

UCS Fabric Extender / Nexus 2000

Modular Switch

Fixed backplane

Distributed Modular Chassis

10Gb Ethernet for the Backplane
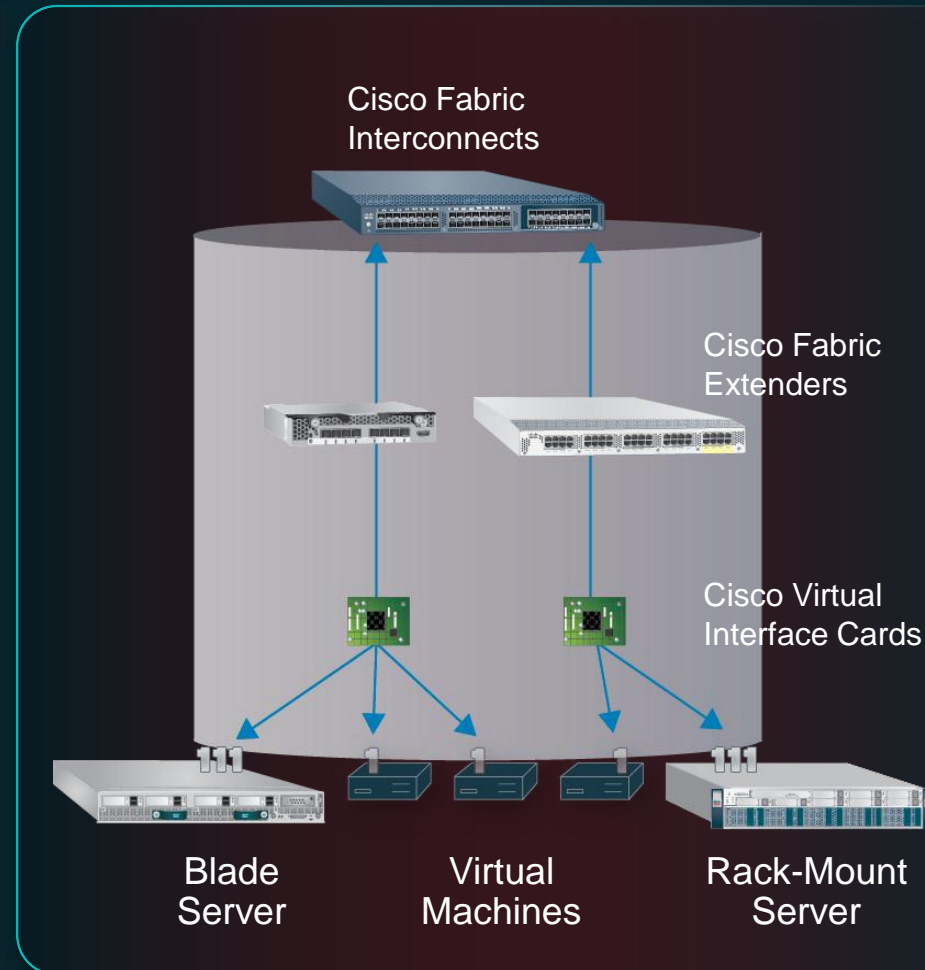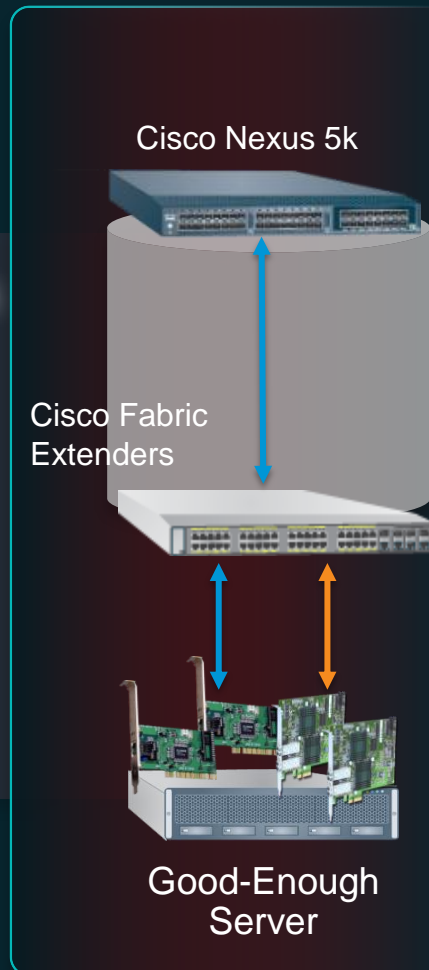
Unified Fabric in UCS and Nexus
Physical Servers and VM's Connect Directly to the Network

Cisco® Fabric Extender Architecture

One Network One Layer

Fabric Extender Architecture

Cisco Nexus 5k

Cisco Fabric Extenders

Good-Enough Server

Cisco Fabric Interconnects

Cisco Fabric Extenders

Cisco Virtual Interface Cards

Blade Server
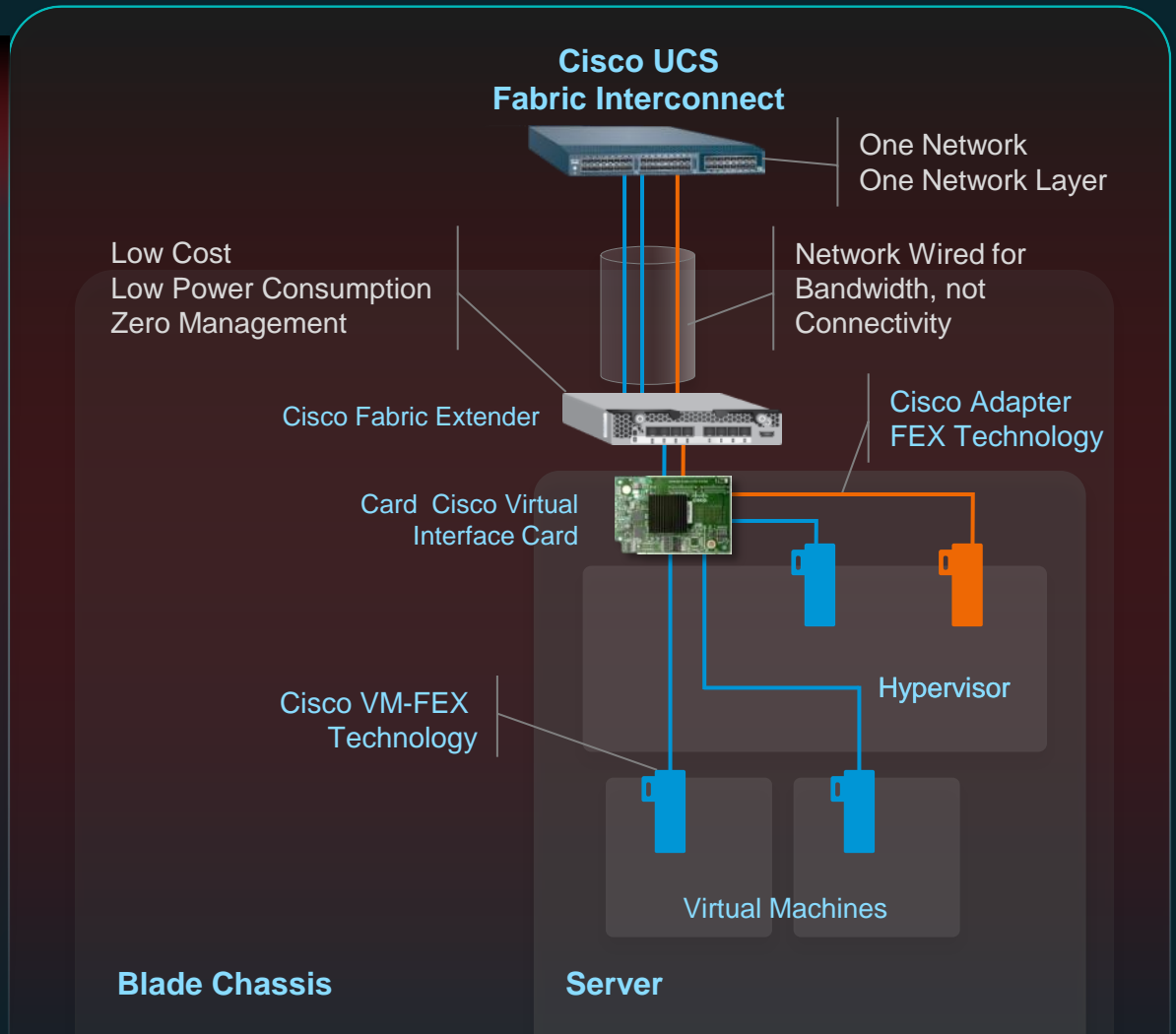
Virtual Machines

Rack-Mount Server

Cisco Fabric Extender Architecture:
Three Network Layers in One

Cisco® Fabric Extender Architecture

- Integrates three layers of networking
  - Less complexity
  - Fewer devices
  - Fewer management points
- Directly connects servers to the network
- Directly connects Virtual Machines to the network

Cisco UCS Fabric Interconnect

One Network
One Network Layer

Low Cost
Low Power Consumption
Zero Management

Network Wired for Bandwidth, not Connectivity

Cisco Fabric Extender

Cisco Adapter FEX Technology

Card Cisco Virtual Interface Card

Cisco VM-FEX Technology

Hypervisor

Virtual Machines

Blade Chassis

Server

Combines Manageability of Physical Networks with the Scale of Virtual Networks
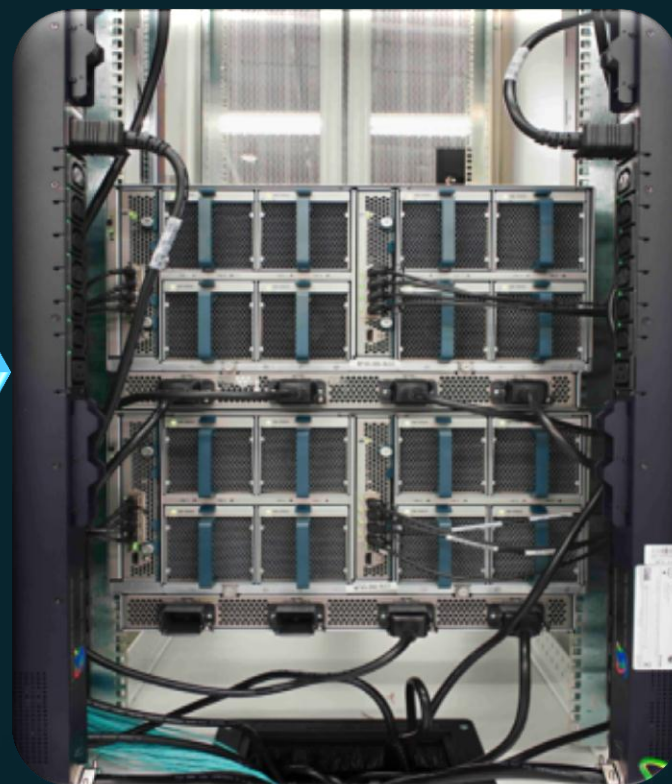
Result: Dramatic Cable Reduction
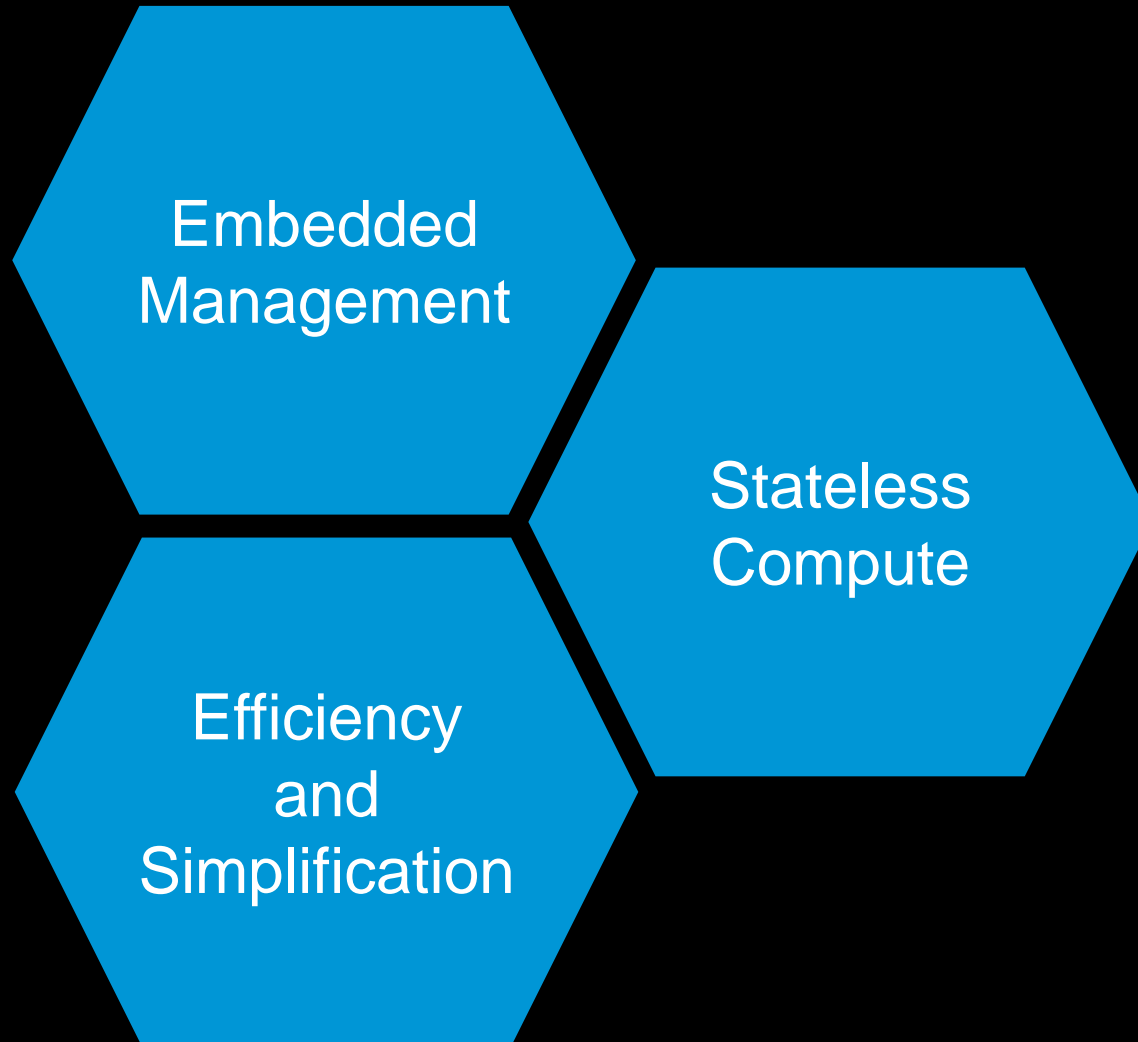## More Flexibility and More Efficient Power and Cooling

**Traditional
Blade Server**

**Cisco Unified
Computing System**

What is different with UCS?

Single Unified System

XML API Standard APIs

UCS Manager

	Fibre Channel
1 Unify Fabrics	Ethernet
	Management
	Single Network Layer

	Blades and Rack Mount
2 Integrate Compute	Extended Memory

	Centralized
3 Embed Management	All Elements
	Self Integrating

	Server Personality Abstraction
4 Optimize For Virtualization	Virtual I/O Awareness

	Capacity Instead of Management Points
5 Scale Without Complexity	Fewer Components

FEX FEX FEX FEX FEX FEX

FEX FEX FEX FEX

FEX FEX FEX FEX

Single Unified System

1 Unify Fabrics
- Fibre Channel
- Ethernet
- Management
- Single Network Layer

2 Integrate Compute
- Blades and Rack Mount
- Extended Memory

3 Embed Management
- Centralized
- All Elements
- Self Integrating

4 Optimize For Virtualization
- Server Personality Abstraction
- Virtual I/O Awareness

5 Scale Without Complexity
- Capacity Instead of Management Points
- Fewer Components

Cisco Unified Computing System
Powered by Intel® Xeon® Processors

TECHNICAL LEADERSHIP

- **Unified Infrastructure:** compute, networking, virtualisation, storage access, management software

- **Management Automation:** UCS Manager and Service Profiles across blade and rack servers

- **Ideal for enterprise applications:** proven for both bare metal and virtualised enterprise deployments

- **Proven success with**
    - 53 world-record benchmarks
    - Numerous awards

MARKET MOMENTUM

- **UCS $1.3 billion** annualized revenue run rate (CQ4-2011)

- **#2 US** blade server market share with 19%

- **#3 WW** blade server market share with 12%

- **Nearly 11,000** UCS customers

- **Over 250** Cisco UCS™ customers in Switzerland

- **Last 6 months 70 new UCS customers in Switzerland**

UCS Mobile Demo Rack

Rolls in to your Datacenter !
2 Power Plugs, 2 LAN Plugs, 2 SAN Plugs …..
and your LAN/SAN/Server Test-Architecture for hundreds of VM's is ready in a couple of hours

UCS works for Swiss SP

Price-Tag see Flyer

BUILD YOUR CLOUD SERVICES ON CISCO UCS

Three reasons, why you should rethink your data center architecture

Mini Bundle $595
96 x Unified Ports 10GE/FC/FCoE Ports, 24 Intel E5 cores, 96 GB RAM, $21'472

Medium Bundle $1'065
96 x Unified Ports 10GE/FC/FCoE Ports, 64 Intel E5 cores, 256 GB RAM, $38'324

Interested?
Details with Listprice @ https://apps.cisco.com/QuickCatalog/home.do

* Monthly rate for a 36 month 0% interest Cisco Capital funding

1 - Automation ready
UCS Manger includes LAN, SAN and compute. A single IP you need to talk to for automation, nothing more.

2 - Simplifies operation
UCS contains stateless compute. It is like vmotion for baremetal servers. No need for expensive clustering software.

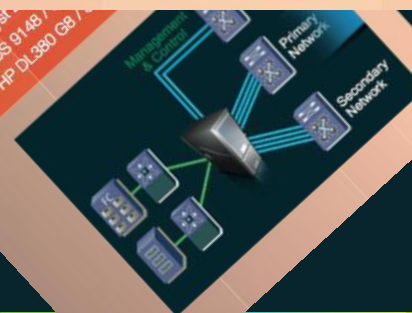**3 - Cable for bandwith not functionality**
Unified Fabric enables you to cable once and then configure in software what and how much logical interfaces you need for the server up to the VM port.

Contact us @ phmuelle@cisco.com