



It's Time to Build Again.
With Cisco Business Architectures

Cisco Annual Partner Meeting
15-16 November, 2011

The Journey to the Cloud

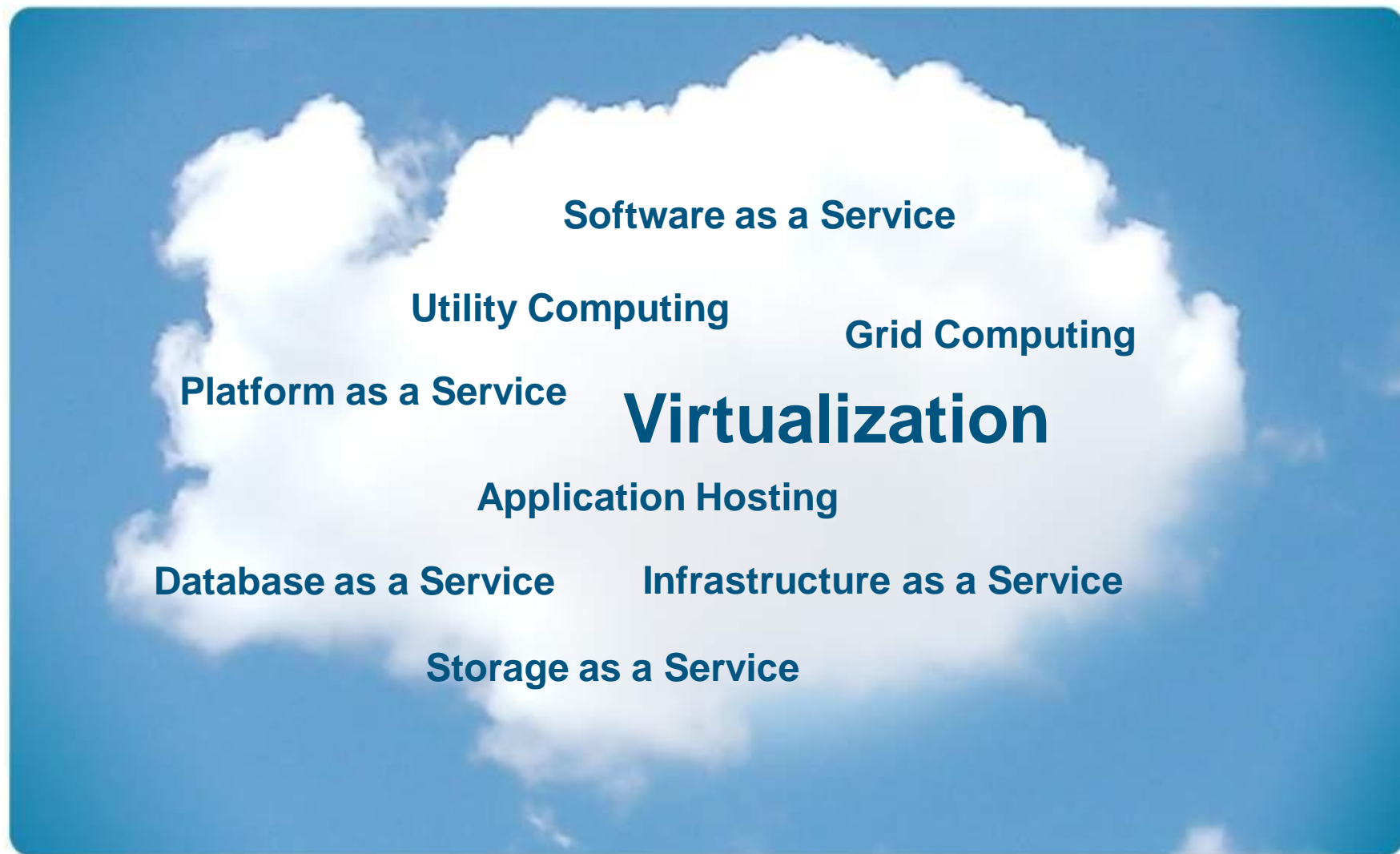
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Agenda

- Business trends
- Cisco strategy for the data center
- Journey to the private Cloud

Cloud Covers a Lot of Territory



We Are Rapidly Approaching...

1 Trillion Connected Devices

1 Million Applications

1 Zettabyte

1B Terabytes of Content



Source: Forrester Research, Cisco IBSG

Explosion in the Amount of Information

2007

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5 Exabytes per month

1.4 Billion DVDs crossing the network

2010

[illegible]

21 Exabytes per month

4.8 Billion DVDs crossing the network

2013

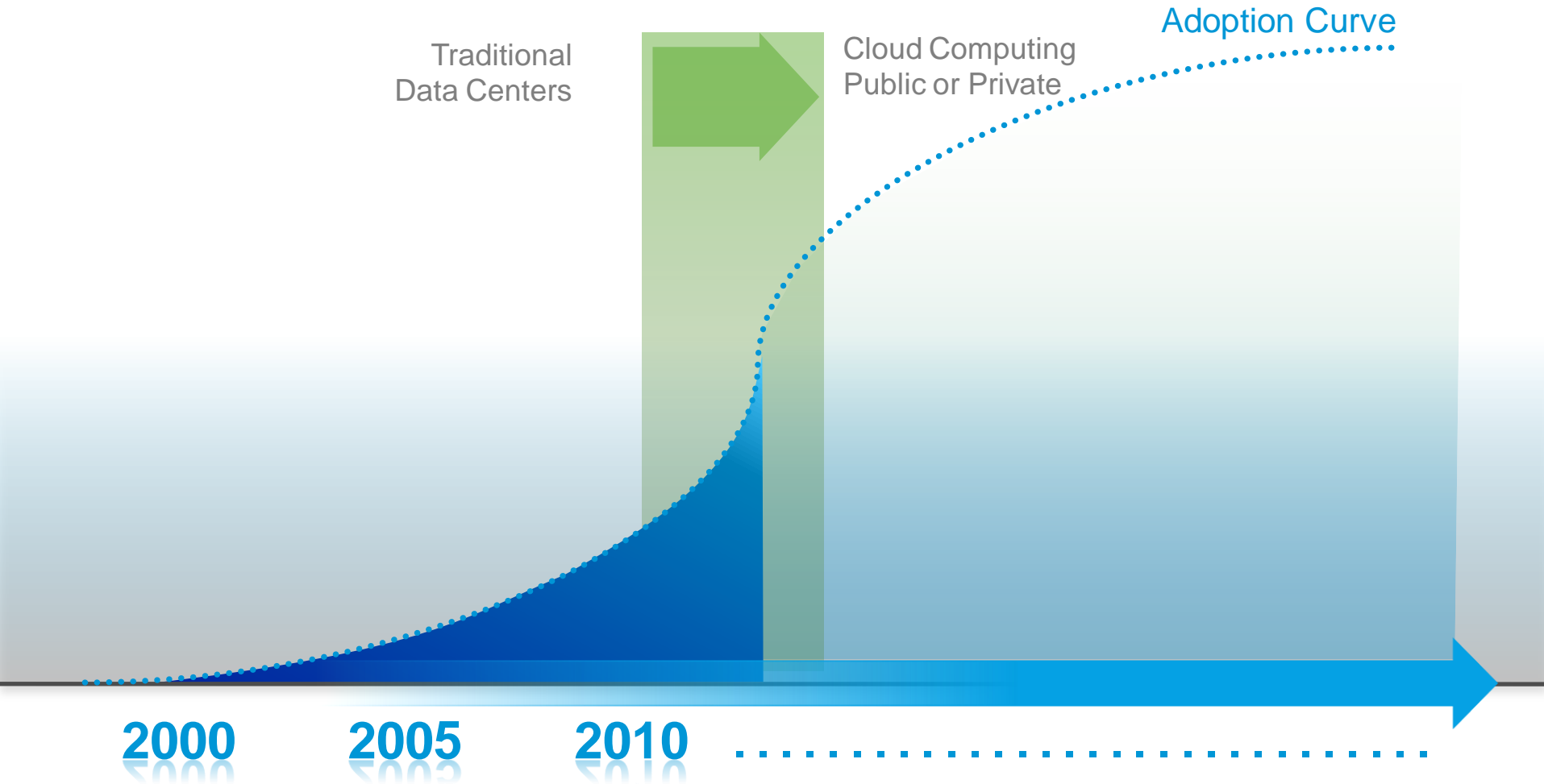
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56 Exabytes per month

12.8 Billion DVDs
crossing the network

Source: Cisco Visual Networking Index

We Are at the Beginning of a Major Shift



Meeting Today's Business Challenges

Growth

“...we need a **solution** that enables us to **respond** to **customers** within hours instead of days”

Margin

“I need to achieve greater **cost efficiency** and increased IT **agility**...an elusive combination...”

Risk

“At the end of the day, I just want to simply, confidently **say ‘yes’** to my business.”

Aligning Business Goals with Data Center Capabilities

Business Goals (CEO Focus)

New markets, customer acquisition

Productivity gains, customer retention, increased ROI

Risk management, security, compliance and regulatory environment

Growth

Margin

Risk

DC Capabilities (CIO Focus)

Flexible IT infrastructure, fast new service creation

Reducing total cost of ownership (TCO)

Business continuity, data security

What If...

Your Data Center Strategy Enabled You To:

Drive Business Objectives

AND

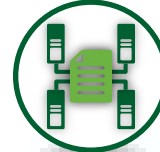
Innovate with Operational Excellence



Reduced
business risk



Need to reduce costs
and increase profits



Server virtualization:
higher performance



Applications
experience



Drive for green—
power, cooling,
and space



IT as enabling partner
of the business



New services
to market



LAN and storage
convergence



VM-Level
awareness



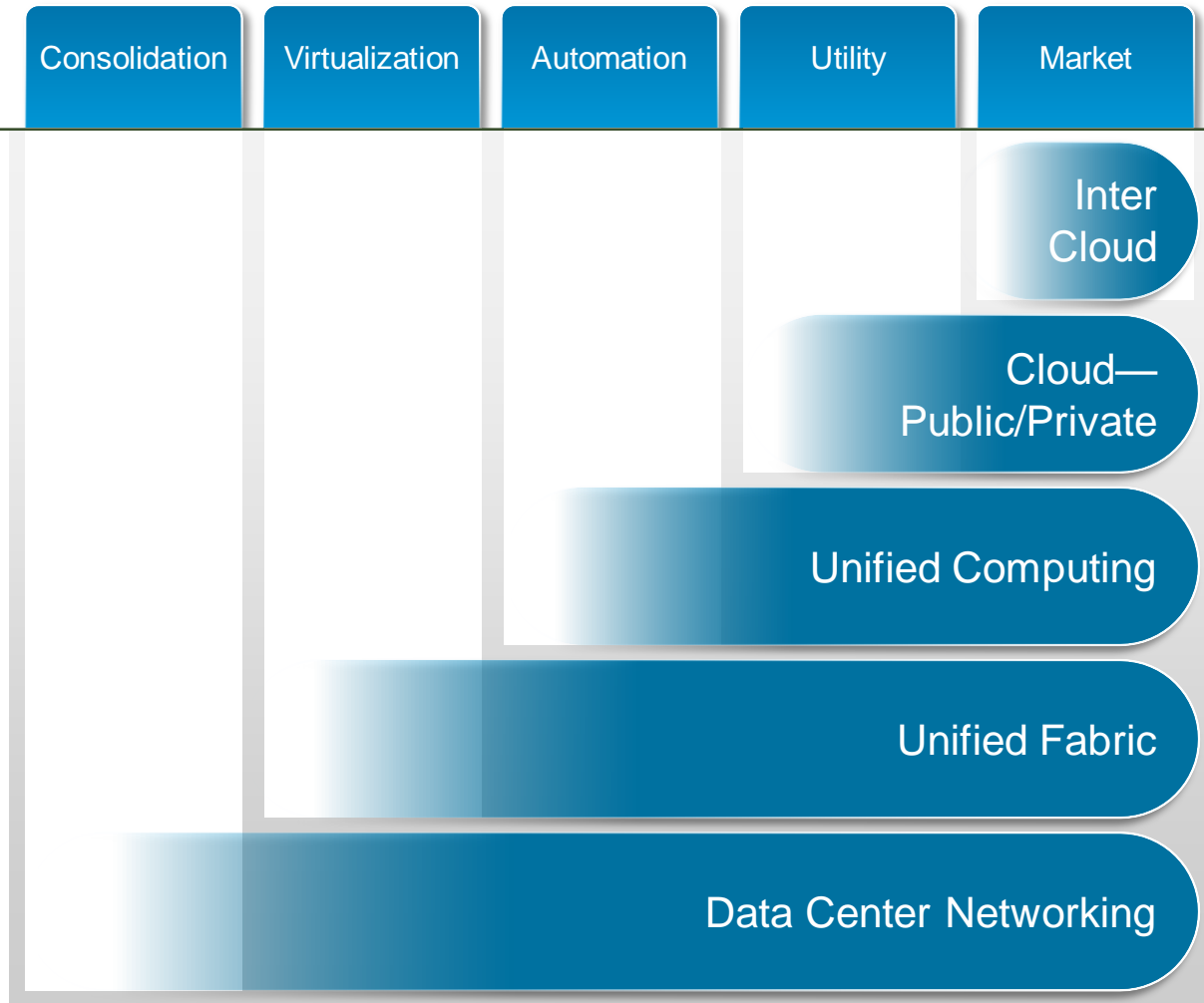
Workload
provisioning

Cisco Strategy for the Data Center



Cisco's Data Center Story:

A Progressive Strategy



Cisco Differentiated Approach

Bringing It All Together

SYSTEMS EXCELLENCE

Benchmarking

Quantifying platform and architectural benefits

Convergence

Unifying the infrastructure

TECHNOLOGY INNOVATION

Fabric Path

Scaling the data center fabric

Unified Compute

Convergence of compute, network and virtualization

BUSINESS
VALUE

SYSTEMS
EXCELLENCE

SOLUTION
DIFFERENTIATION

TECHNOLOGY
INNOVATION

BUSINESS VALUE

Growth through flexible infrastructure

Risk mitigation enabled by workload mobility

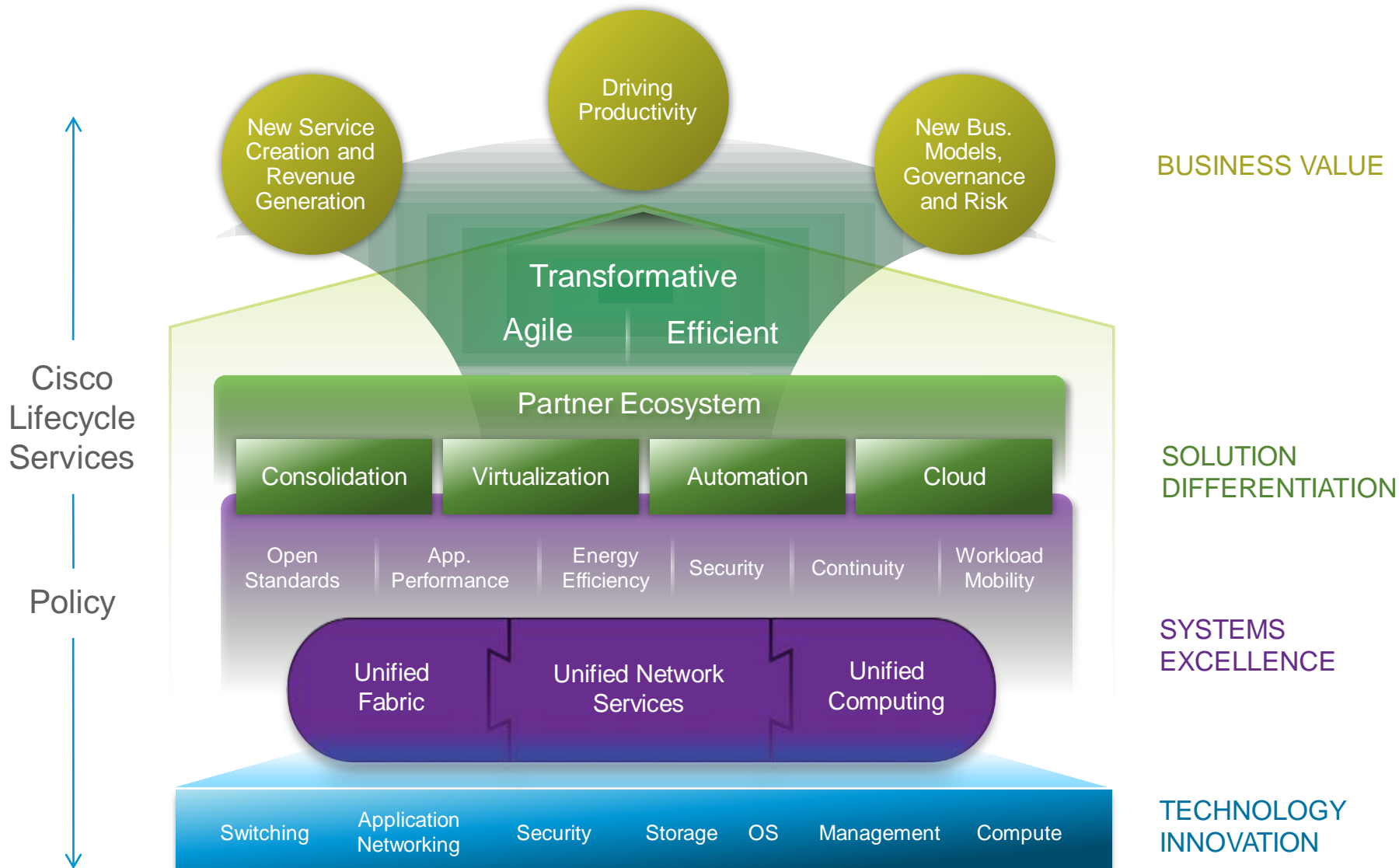
SOLUTION DIFFERENTIATION

Whole offers

Solutions creation and packaging

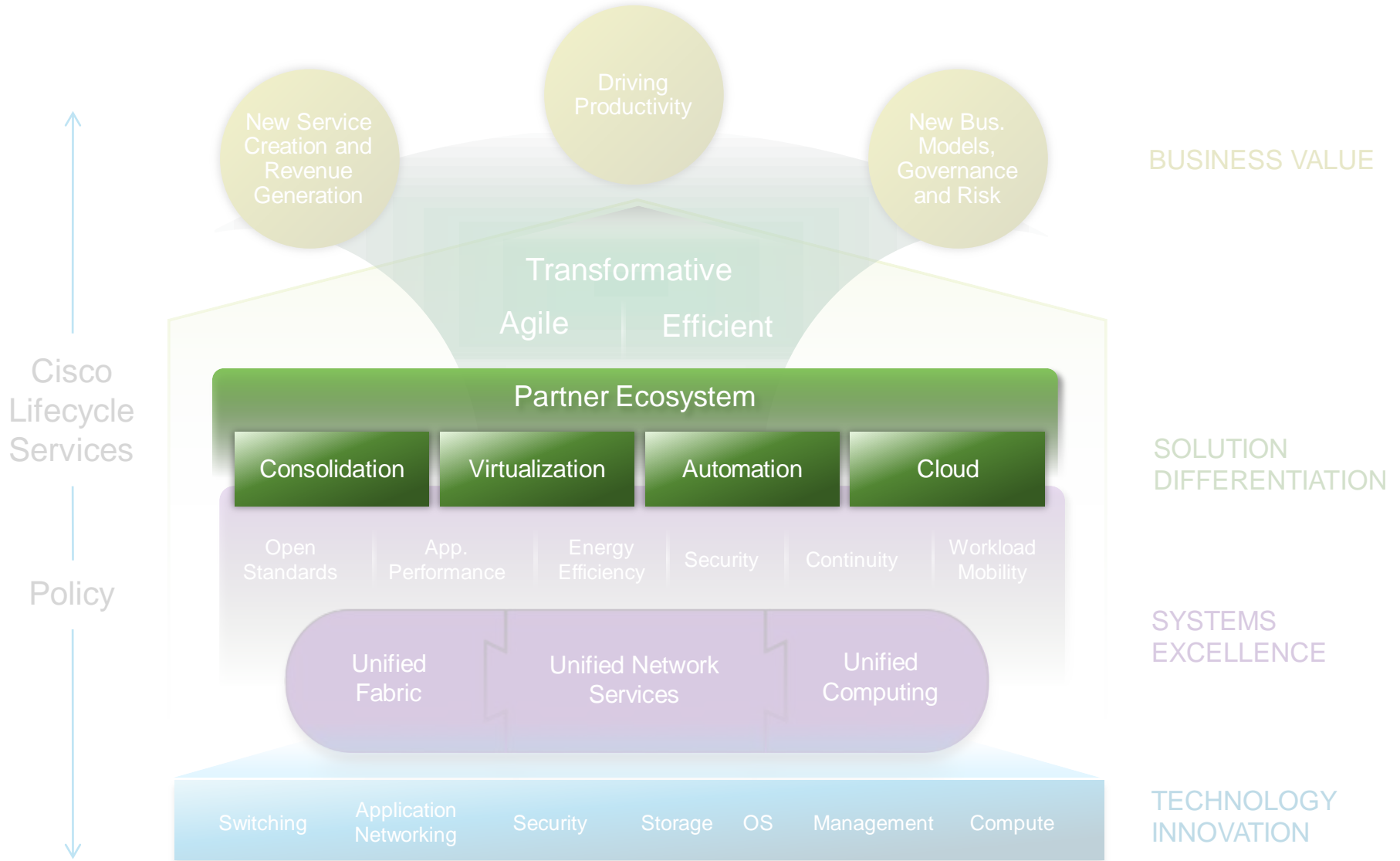
Cisco validated designs and reference architectures

Data Center Business Advantage Architectural Framework



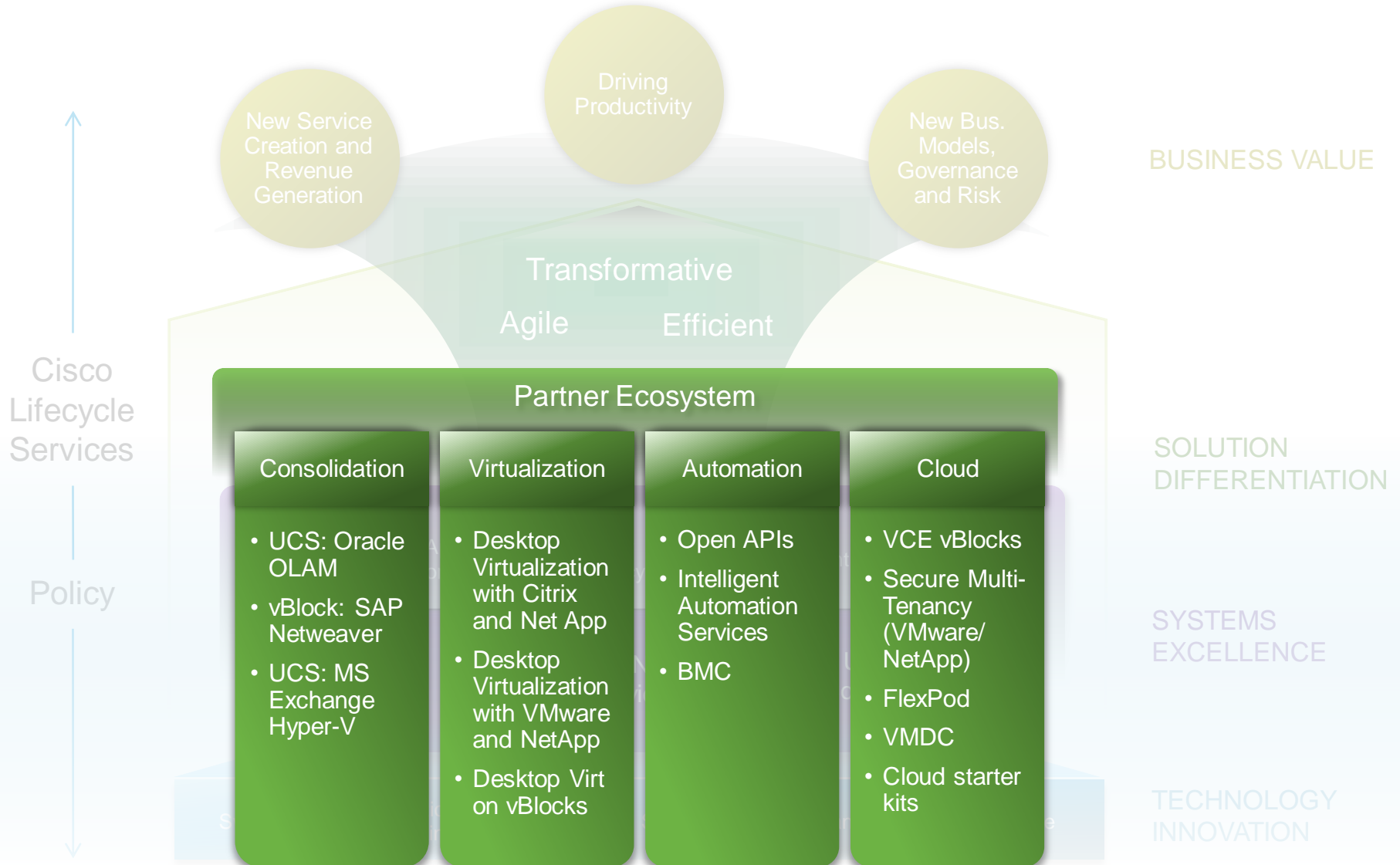
Data Center Business Advantage

Whole Offers and Solutions



Bringing It All Together

New Solutions and Whole Offers



Partner Ecosystem

Integration and Certification Partners

Database /Middleware



Enterprise Applications



Operating Systems



Virtualization



Storage



Management



Ecosystem Proof Points

Thousands of Applications Supported on UCS



80% Less Infrastructure



2X VMs, 2X Virtual Desktops



“Best-in-Class” Two Node Results



First to Publish on New Cloud BMK:
VMmark 2.0



71% Better Virtualised Performance

40+ ISVs

Developing to UCS via Open API

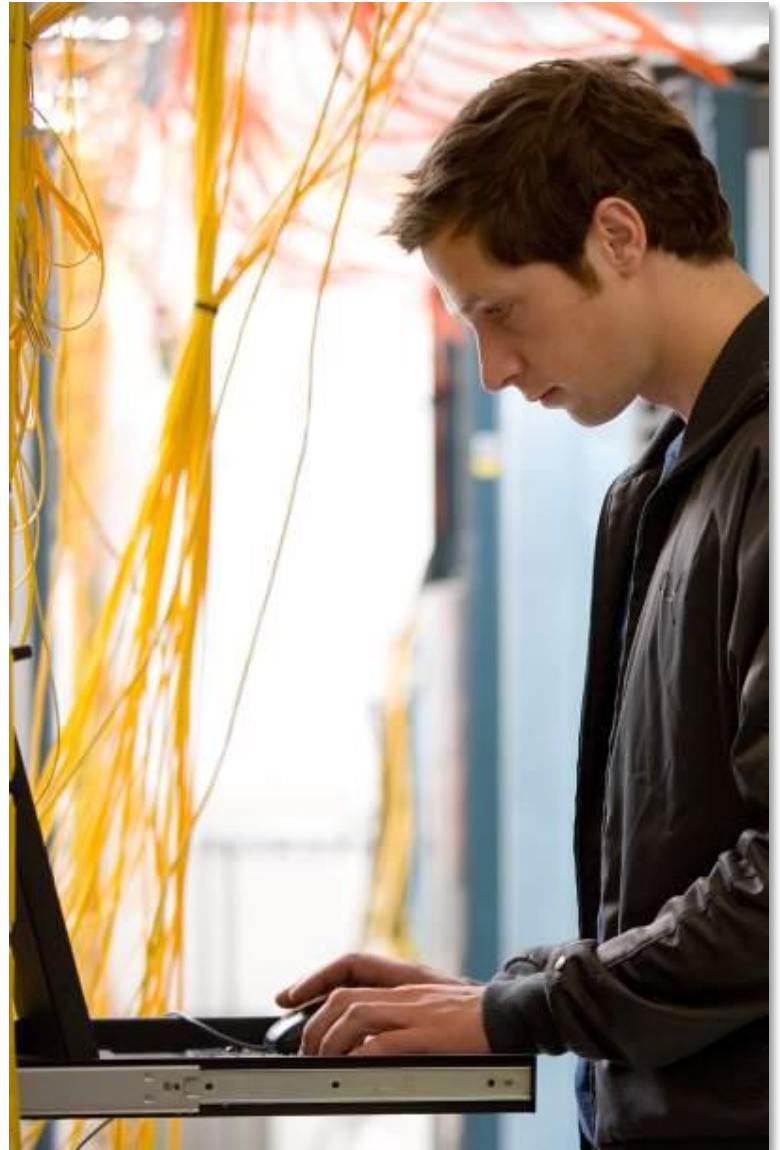


2X Data Base Consolidation



SharePoint Server 2010
65% Better Client Performance

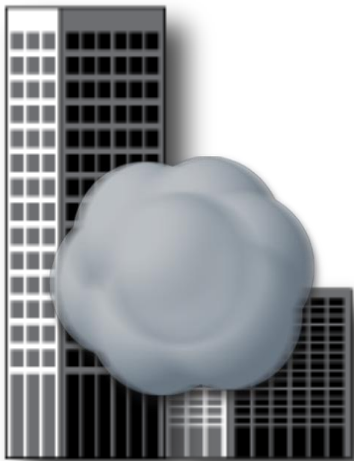
The Journey to Private Cloud



What is Private Cloud?

4 Cloud Deployment Models

Private



Public



Hybrid



Community



Why Private Cloud?

Enterprise-Centric Drivers for Adoption

1

Reduce overall IT costs through greater efficiency of assets

2

Simplify IT operations through consolidation, unification and automation of IT infrastructure

3

Improve pace and consistency of business application roll-outs

4

Better align IT resources to business needs for flexibility and innovation

5

Adopt IT models that reflect today's public and private usage demands

Cloud Services Will Change the Economics and Operations of IT



Cisco Cloud Strategy

Essential Infrastructure for Building Clouds



For customers to build and operate private clouds

Solutions for Deploying Cloud Services



For customers to deploy fully-tested, best-of-breed cloud services

Innovation to Accelerate Use of Clouds

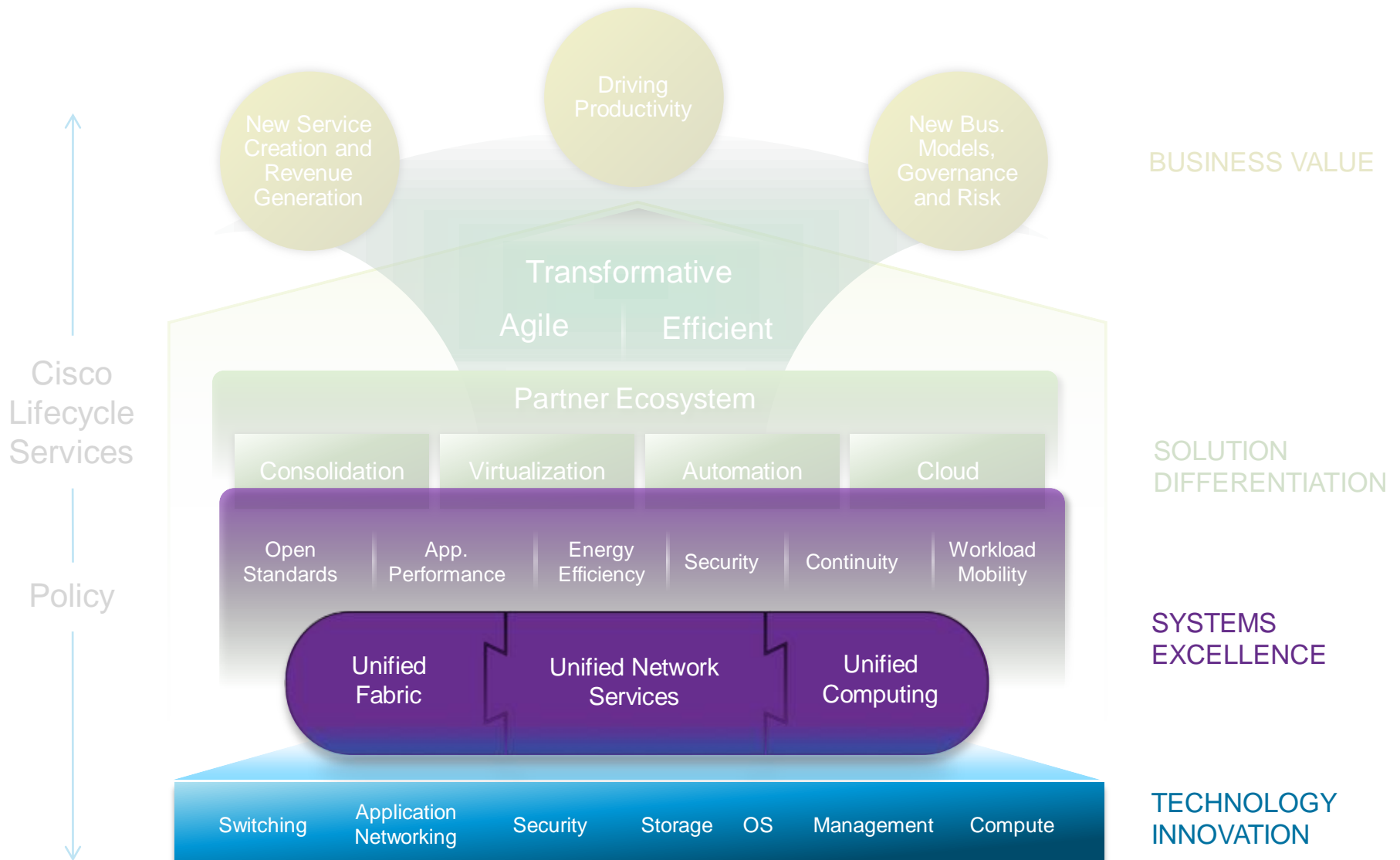


For users to access and collaborate using secure cloud services

Technology Innovations

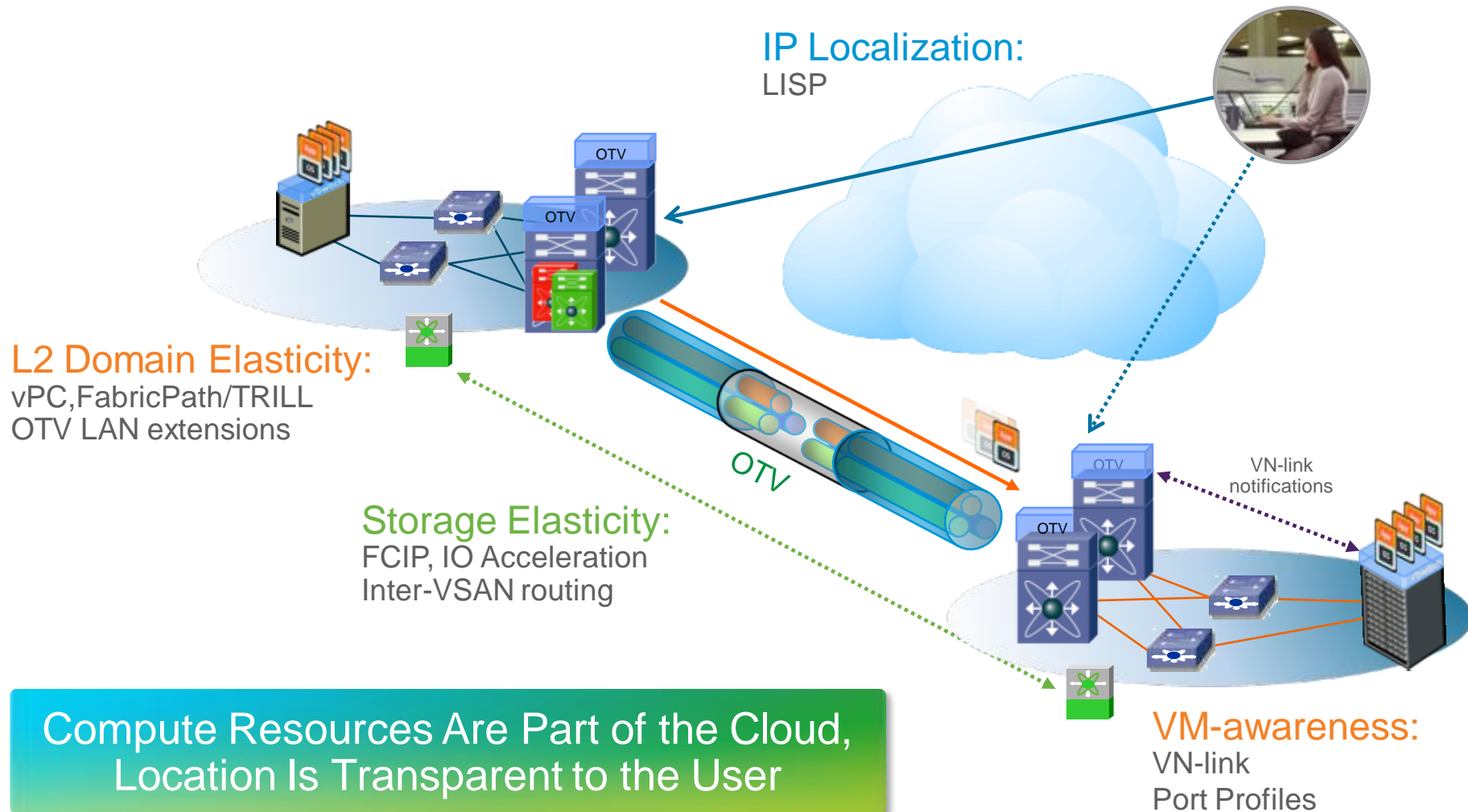


Data Center Business Advantage



Unified Fabric

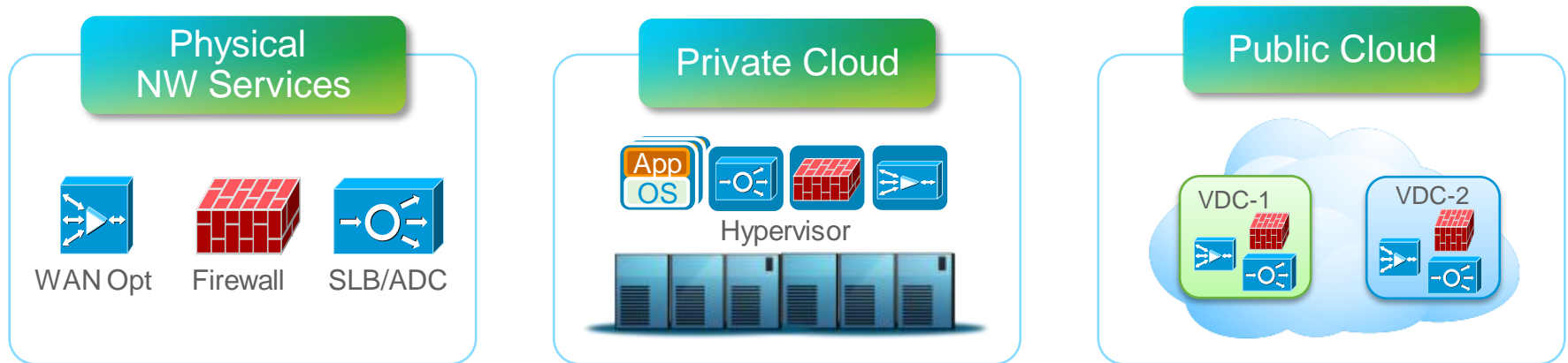
NX-OS Innovations for Cloud and Virtualization



Unified Network Services

Physical to Virtual Services Transition

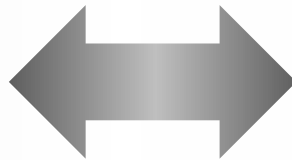
- Provide a common framework for Physical and Virtual services
10%–20%¹ transition to Virtual Services in CY14 at ~50%+ CAGR
- Extend customer investments in Physical, while addressing cloud requirements



• Application-specific service nodes

• Form factors:

Appliance
Switch module
Router-Integrated



- Virtual appliance form factor
- Elastic Instantiation/Provisioning
- Service transparent to VM mobility
- Support scale-out
- Large scale multi-tenant operation

1. Cisco synthesized forecast; 2. Gartner

Unified Computing

Scalable, Dynamic Compute Platform for Open Environments

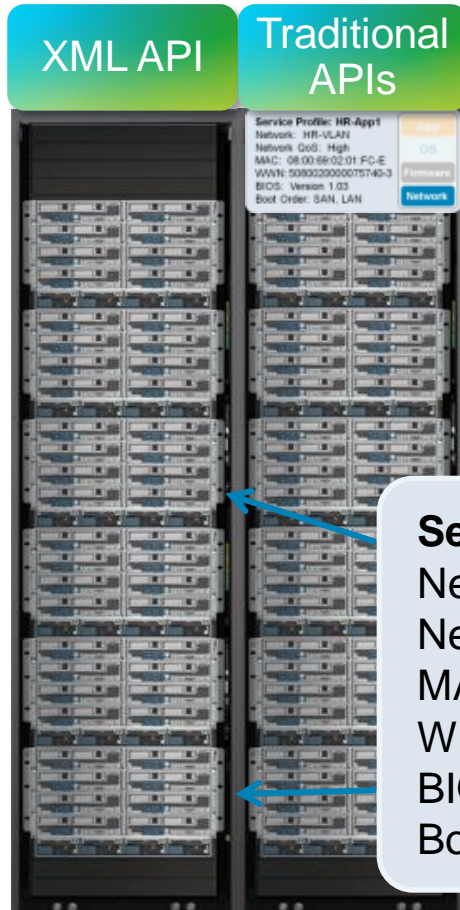


- A single system
 - Compute: Industry standard x86
 - Network: Unified fabric
 - Virtualization: Control, scale, performance
 - Storage Access: Wire once for SAN, NAS, iSCSI
- Embedded management
 - Increase scalability without added complexity
 - Dynamic resource provisioning
 - Ability to integrate with broad partner ecosystem
- Highly efficient
 - Fewer servers, switches, adapters, cables
 - Lower power and cooling requirements
 - Fewer people to deploy and manage

Embedded Unified Management

Tightly Coupled
Partner Mgmt Tools

Existing Customer
Mgmt Tools



- Unified Management Domain
 - Automatic discovery
 - Dynamic Provisioning
- Building Block for Dynamic Data Center
 - Simplify management of infrastructure for ESX clusters and data centers
 - One-click configuration of LAN, SAN and firmware parameters

Service Profile: HR-App1

Network: HR-VLAN

Network QoS: High

MAC: 08:00:69:02:01:FC-E

WWN: 5080020000075740-3

BIOS: Version 1.03

Boot Order: SAN, LAN

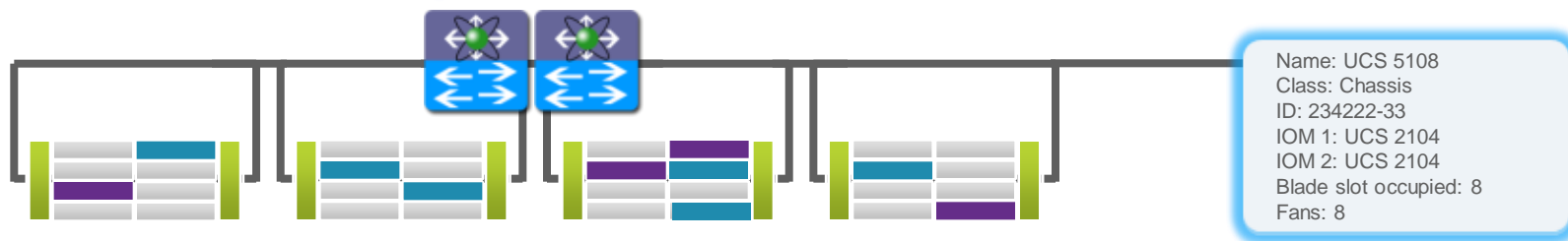
Zero Touch Integration

Decouple Complexity and Scale

Physical Inventory

Name: UCS 12
Class: System
ID: 77449-32
Chassis: 1
- IOM 1: UCS 2104
- IOM 2: UCS 2104
- Blade slots occupied: 8
Chassis: 2
- IOM 1: UCS 2104
- IOM 2: UCS 2104
- Blade slots occupied: 8
Chassis: 3
- IOM 1: UCS 2104
- IOM 2: UCS 2104
- Blade slots occupied: 8
Chassis: 4
- IOM 1: UCS 2104
- IOM 2: UCS 2104
- Blade slots occupied: 8
Chassis: 5
- IOM 1: UCS 2104
- IOM 2: UCS 2104
- Blade slots occupied: 8

- Increase capacity, not complexity
- New equipment self integrates



Zero Touch Integration

Decouple Complexity and Scale

Physical Inventory

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Class: System

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- IOM 2: UCS 2104

- Blade slots occupied: 8

Chassis: 3

- IOM 1: UCS 2104

- IOM 2: UCS 2104

- Blade slots occupied: 8

Chassis: 4

- IOM 1: UCS 2104

- IOM 2: UCS 2104

- Blade slots occupied: 8

Policy Inventory

Service Profile: Default 1

Service Profile: HR-App1

- Blade slots occupied: 8

- Increase capacity, not complexity
- New equipment self integrates
- Inventory and status updated



Zero Touch Integration

Decouple Complexity and Scale

- Increase capacity, not complexity
- New equipment self integrates
- Inventory and status updated
- Immediately apply existing policies

Policy Inventory

Service Profile: Default 1

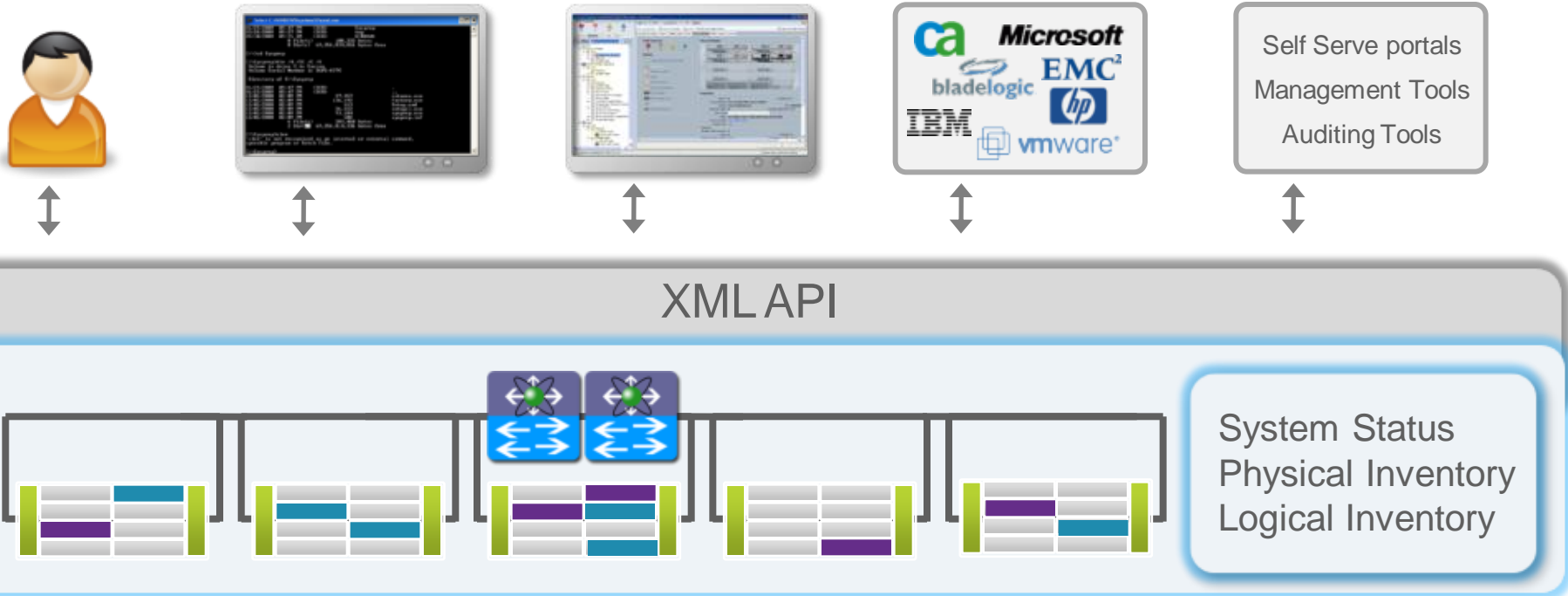
Service Profile: HR-App1



Programmatic Infrastructure

Develop with the Infrastructure, Not Just on the Infrastructure

- Comprehensive XML API, standards-based interfaces
- Bi-Directional access to physical and logical internals

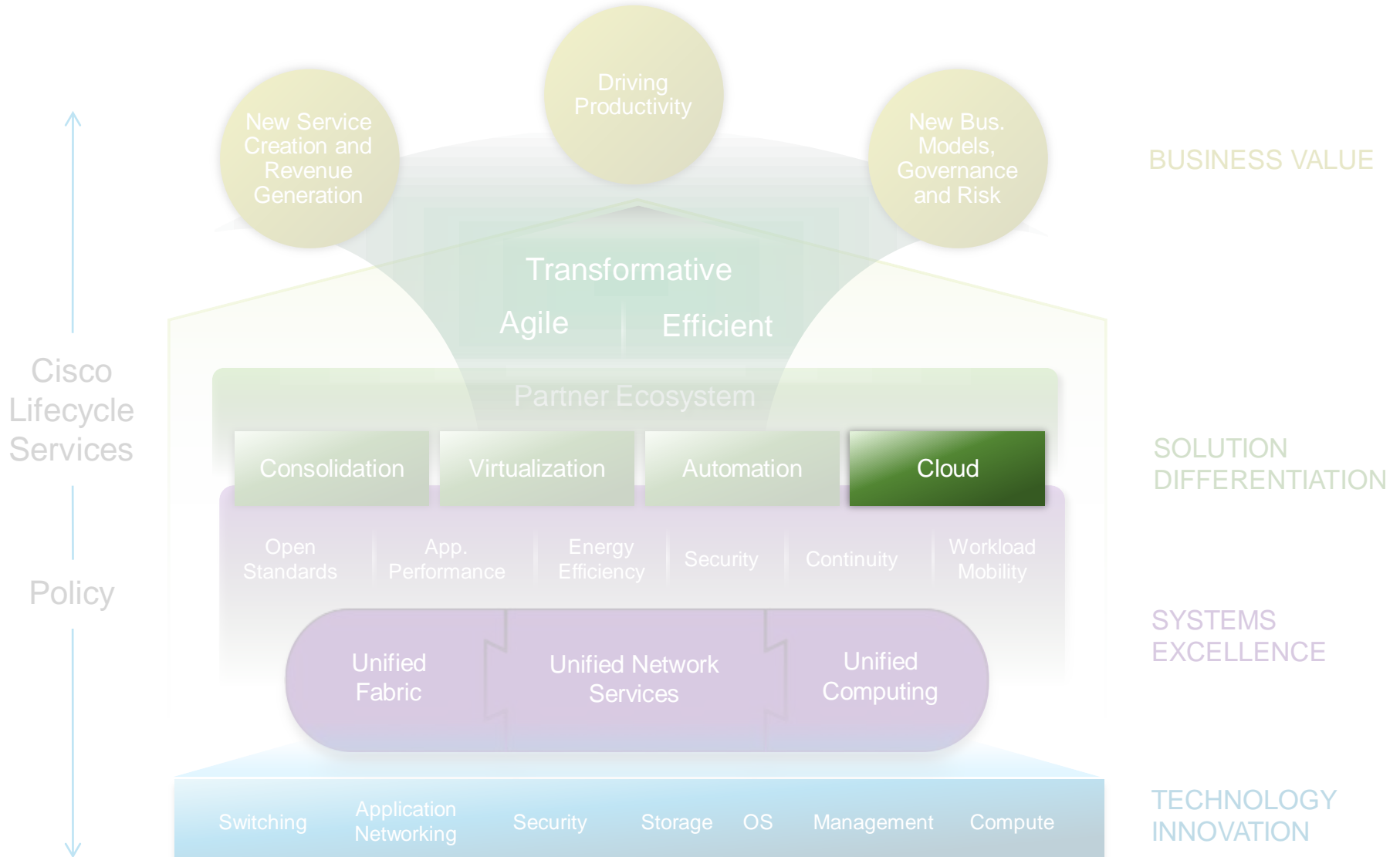


Solutions



Solution Center Business Advantage

Whole Offers and Solutions



Solutions for Cloud

Business Application Solutions



Integrated Computing Stacks



vBlock



FlexPod

Unified Data Center Networking



Unified Fabric



Unified Network Services



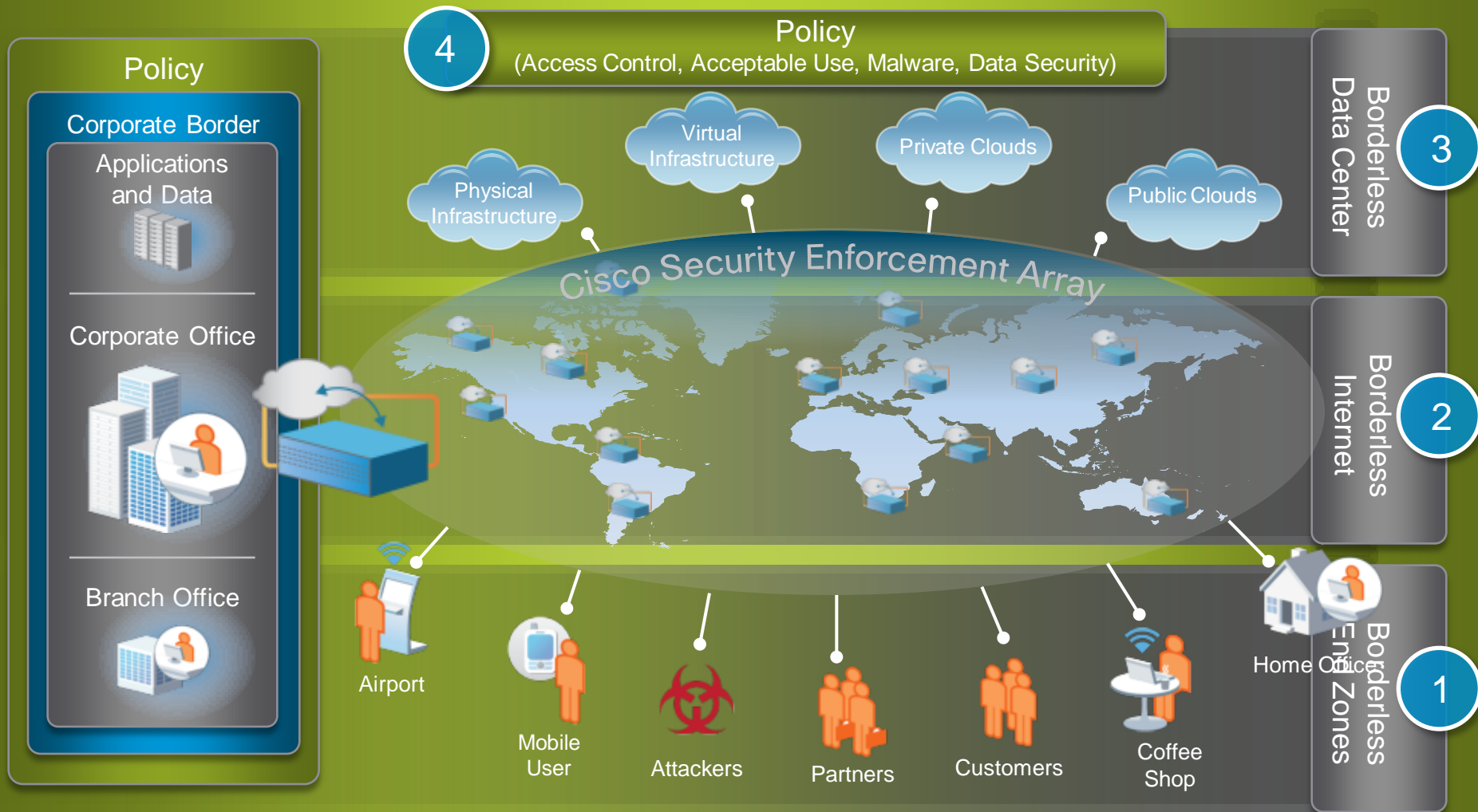
Unified Computing

Cloud Management



Cloud Security Framework

Borderless Networks



Cisco Data Center Solutions for Private Cloud



Cloud-Enabling Solutions

- Business Applications solutions
- Integrated Compute Stacks
- Unified Data Center solutions

Pervasive Trust and Security Solutions

- ScanSafe, IronPort, AnyConnect
- Security Intelligence Operations
- Physical and Virtual Appliances
- Security In, By and For the Cloud



Communications and Collaboration Solutions

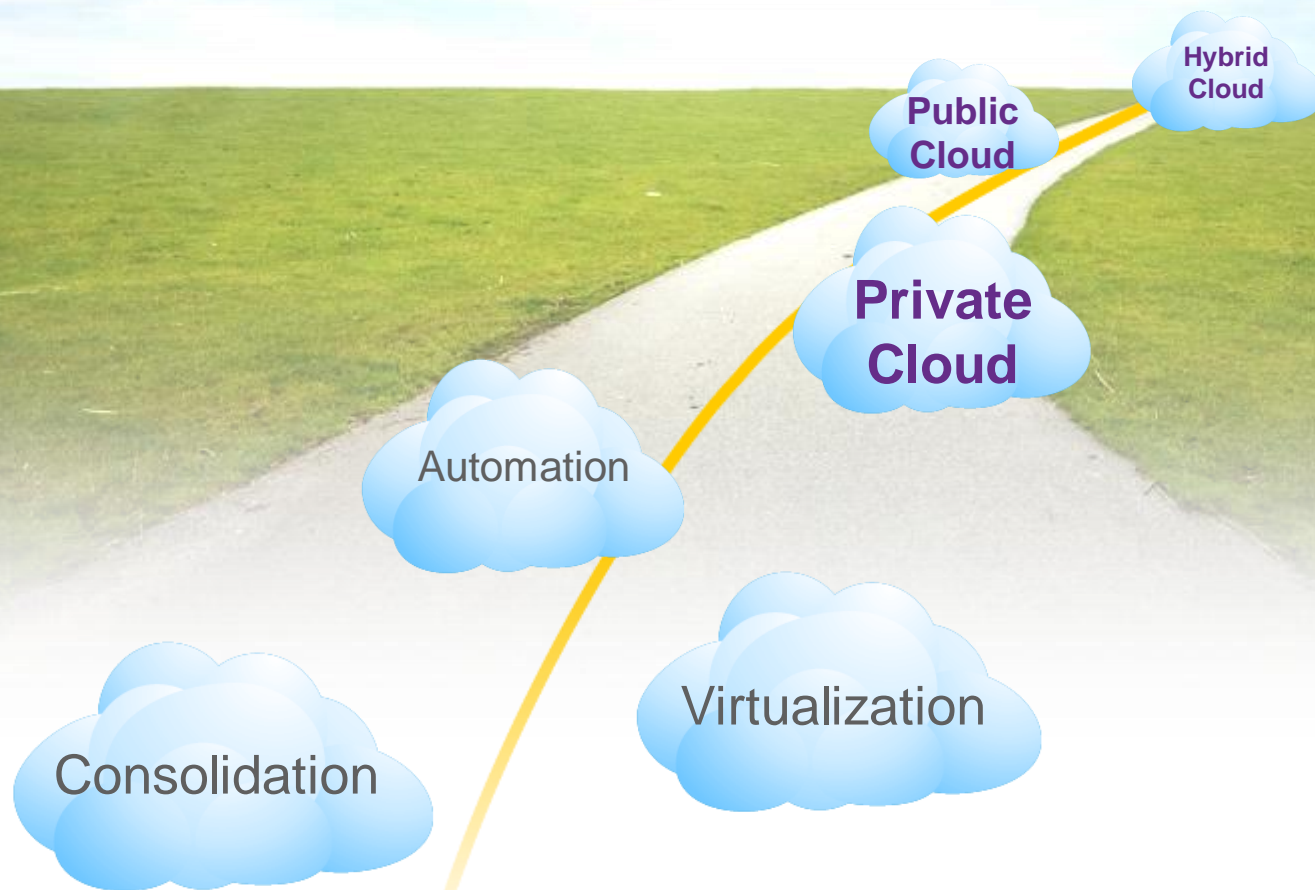
- Hosted Collaboration Solution
- WebEx
- TelePresence

Professional Cloud Services

- Cloud Strategy
- Cloud Planning and Design
- Cloud Implementation and Optimization



Ready for the Cloud?



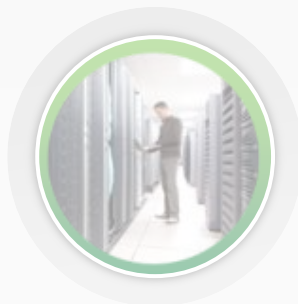
Consolidation

Standardize the Infrastructure, Prepare for Growth



Consolidation

- Consolidate DCs
- Standardize LAN/SAN infrastructure with POD design and 10G Ethernet
- Reduce the number of operating systems
- Standardize on X86



Virtualization

- Implement Server Virtualization
- Implement Storage Virtualization
- VM-aware networking

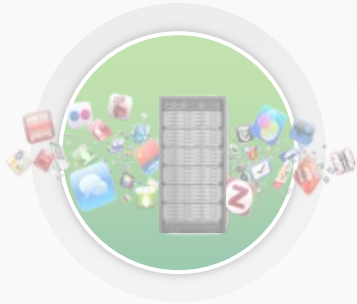


Automation

- Unified Computing
- Reduce points of management
- Enable stateless computing
- Enable policy-based provisioning
- Simplify overall IT operations

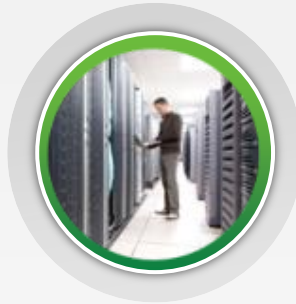
Virtualization

Efficiency, Mobility, Security and Visibility



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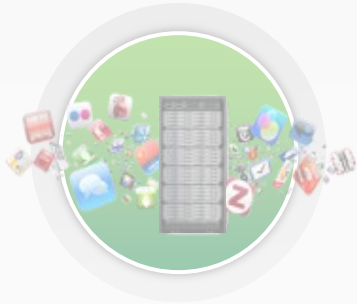


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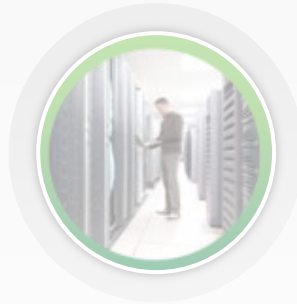
Automation

Speed Deployments, Reduce Mistakes, Enable Services



Consolidation

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Automation

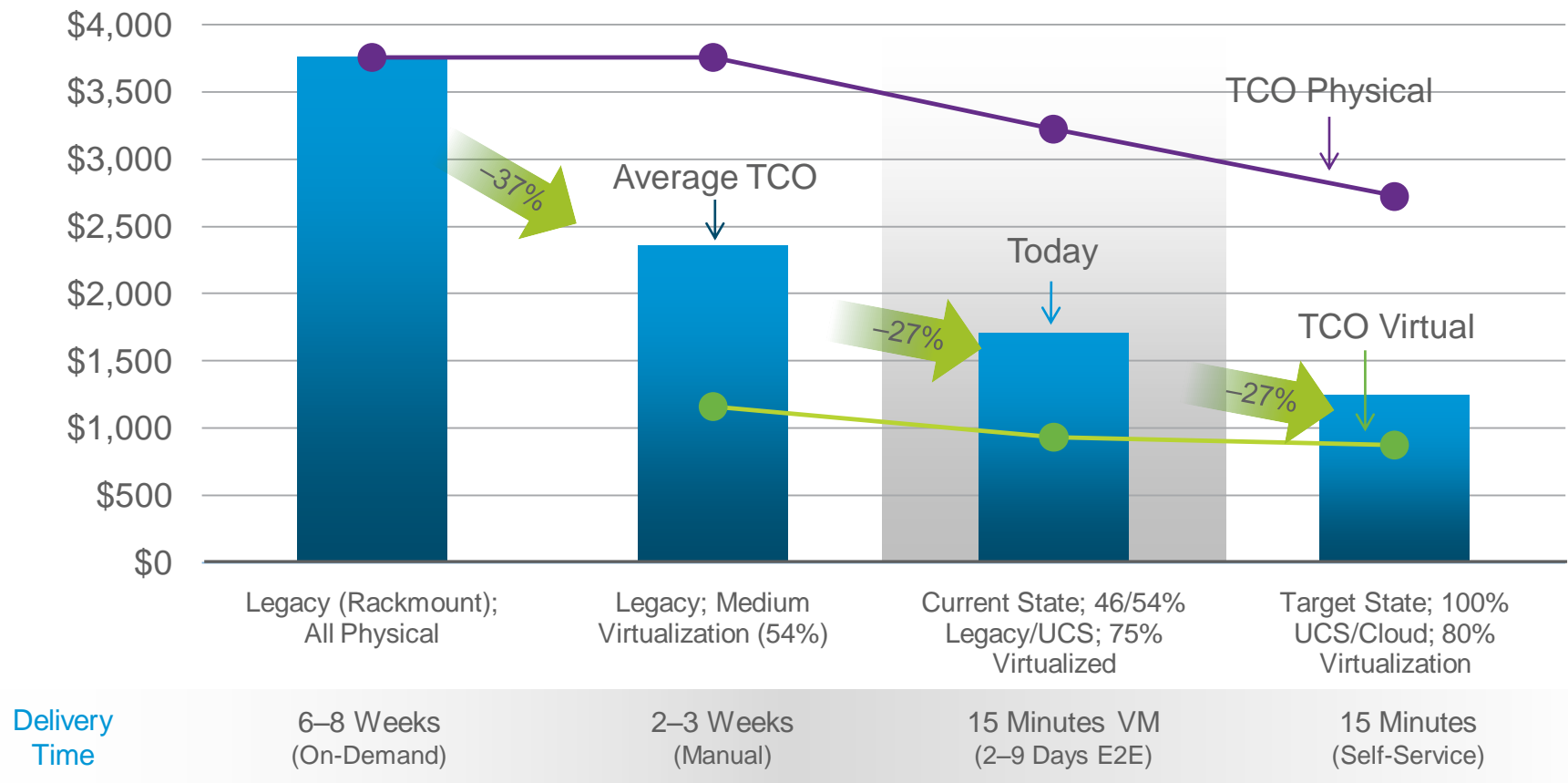
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Cisco Private Cloud Brings Agility & Cost Benefits

TCO and Provisioning Times

Compute TCO
(\$/Qtr/OS instance)

Virtualization > Unified Computing > Cloud



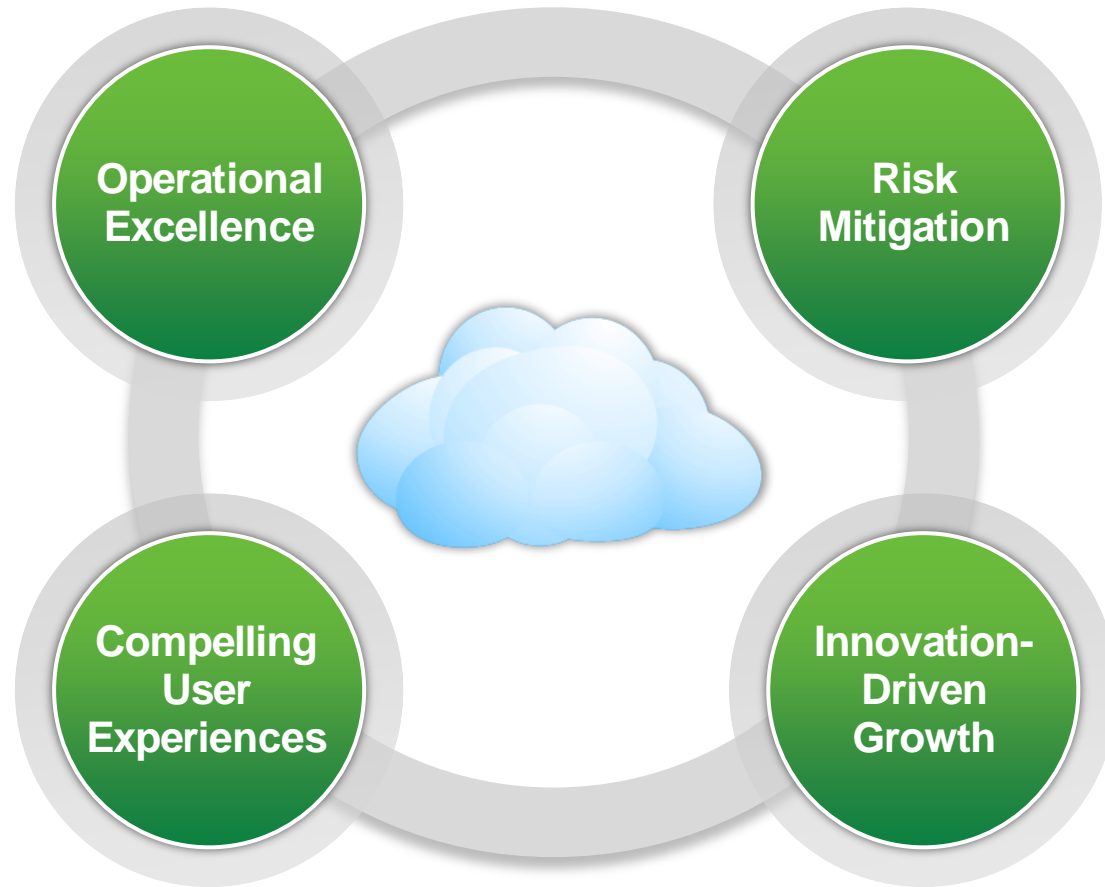
Updated Q2FY11.

Summary



Cisco Private Cloud

Fueling a Sustained Business Advantage



One Cisco

Delivering the Value of Cisco Data Center Business Advantage



Innovation
Leadership



System Integration
and Validation



Solutions with
Partner Ecosystem



Lifecycle
Services



Cisco
Capital

Thank you.

