



Enabling the Cloud

Brian Korn
Cisco Marketing

August 25, 2011

Agenda

Cloud Opportunity

Cisco's Strategy and Differentiation

Private Cloud Solutions

Public Cloud Solutions

Hybrid Cloud Solutions

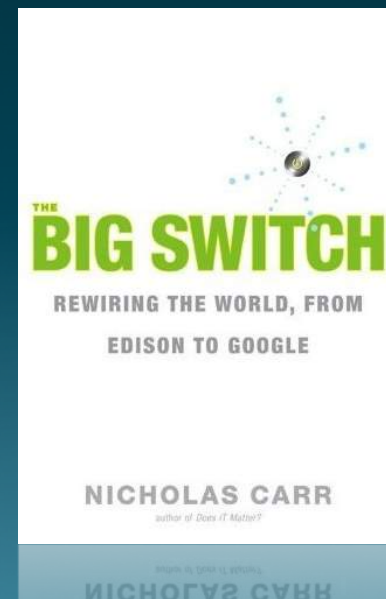
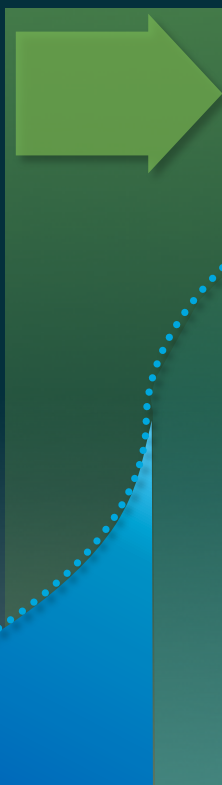
Cloud Implementation

Very Beginning of a Major Shift

Traditional
Data Centers

Cloud Computing
Public or Private

Adoption Curve

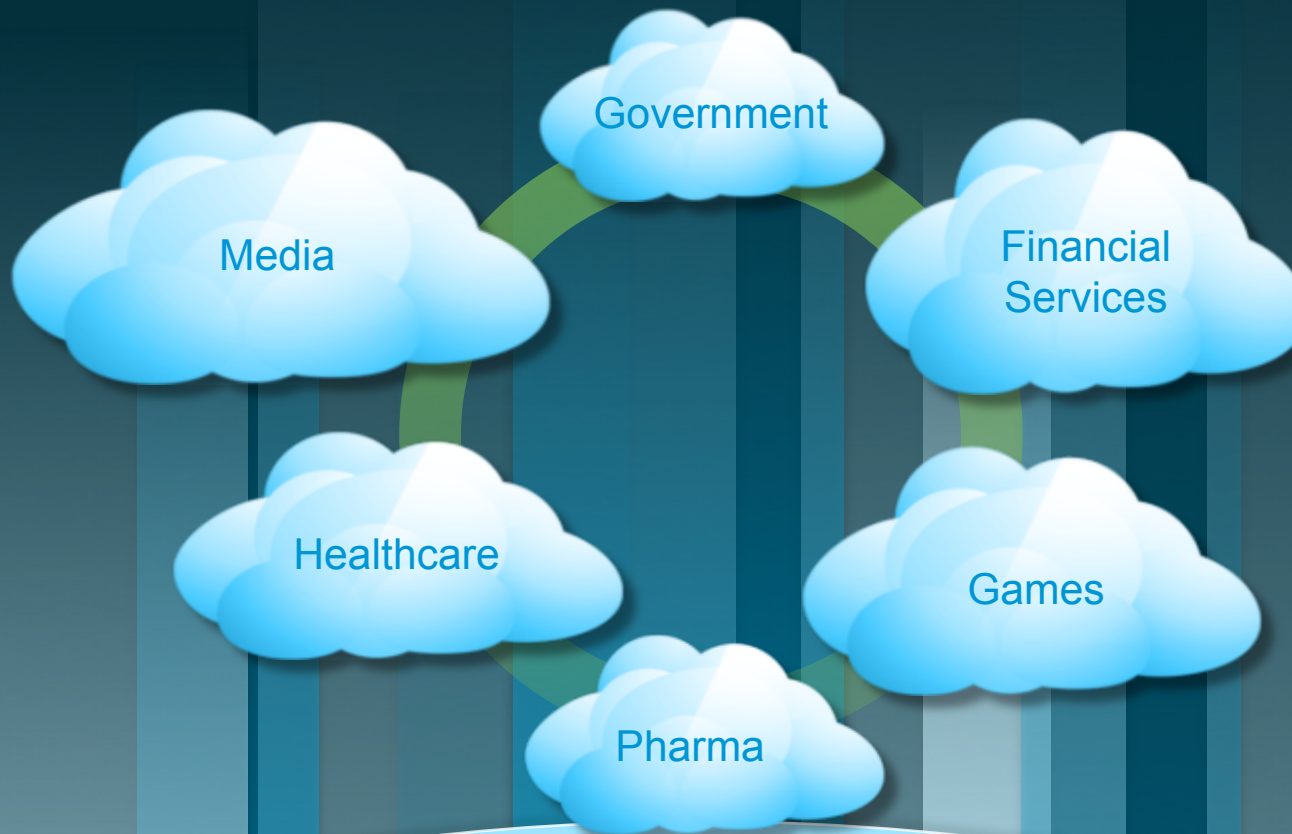


2000

2005

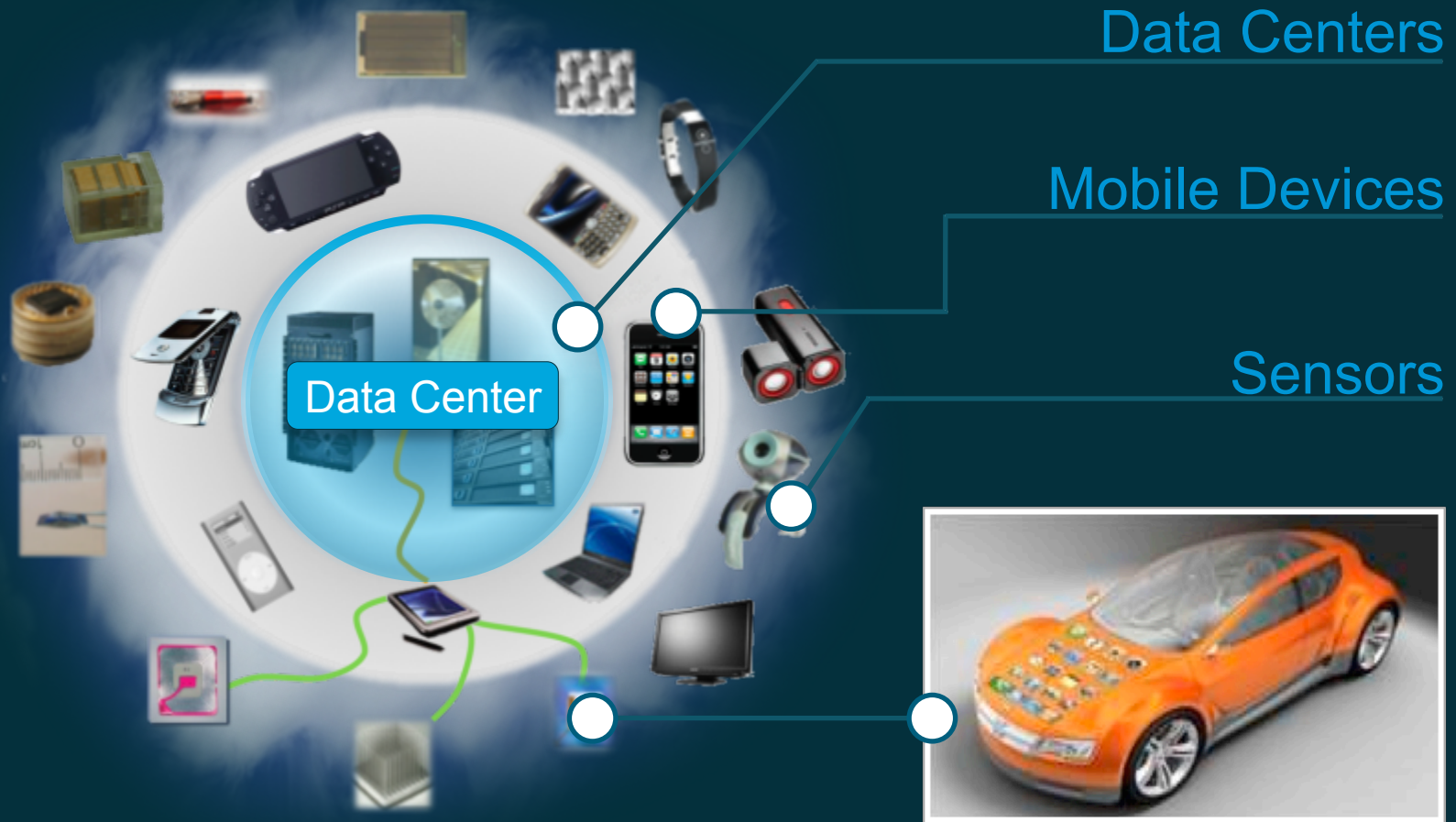
2010

A World of Many Clouds



Network as the Platform
Seamlessly and Securely Connected

An Even Larger Cloud Is on the Horizon



The Power of Cloud: Pooled Resources, Delivered as a Service

Delivered
as a Service

Attributes

- On demand, self service
- Measured usage
- Elastic supply
- Network delivered

Services

- Infrastructure-as-a-service
- Comms/Collab-as-a-service
- Virtual desktop
- Business applications
- Video-as-a-service

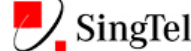
Pooled Resources

Compute

Network

Storage

Cloud Deployments Are Accelerating



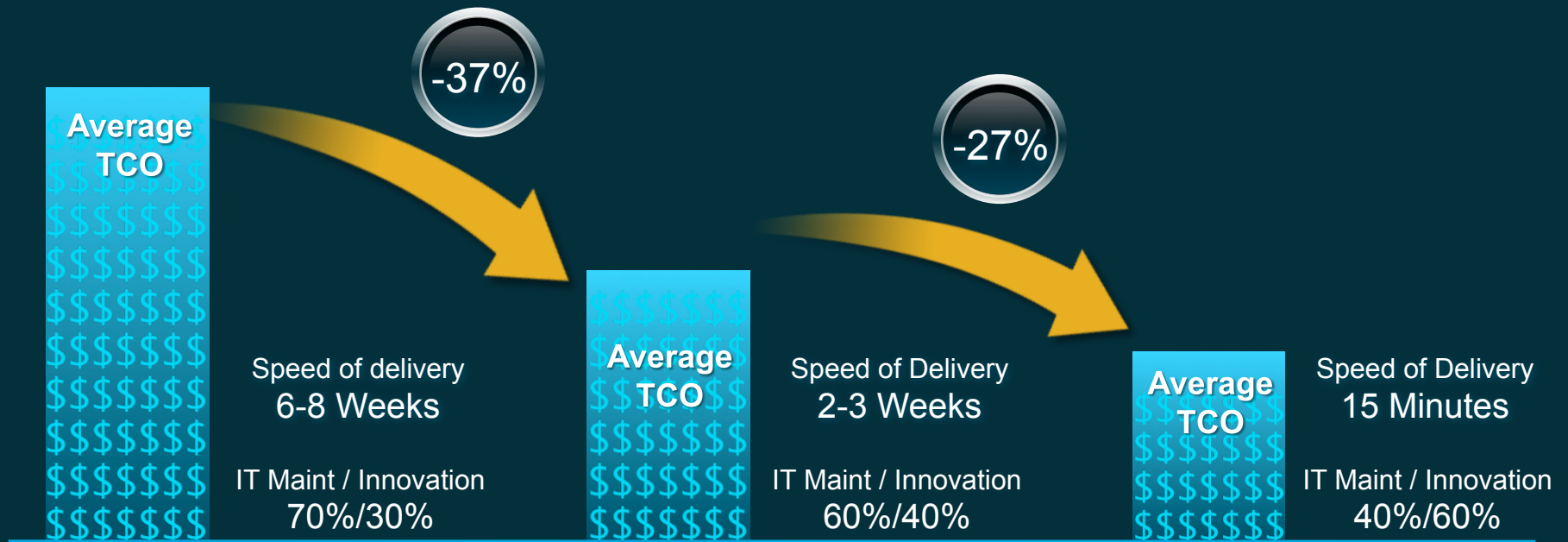
Cloud Changes Scope of What is Possible

- 1 Cloud enables new revenues and business models
- 2 Cloud accelerates innovation and speeds deployment
- 3 Cloud enhances IT/Content efficiency and flexibility
- 4 Cloud reduces and balances CapEx and OpEx needs

**Cloud services change the
fundamental economics of IT/content**

Cloud Case Study

Cisco IT Elastic Infrastructure Services (CITEIS)



Legacy Computer Platform
100% Physical

Legacy Computer Platform
46% Physical : 54% Virtual

Unified Computing Platform
25% Physical : 75% Virtual
100% Automated

Virtualization

Unified Infrastructure
and Automation

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Cisco's Cloud Vision

Enabling Cloud Services
Based on our Network Platform Advantage

Cisco's Cloud Strategy

Enabling Cloud Services
Based on our Network Platform Advantage

Tailored Solutions
for **Building** Clouds



Enable customers to
build and operate
public or private clouds

Rich Ecosystem with
Integrated Solutions



Enable customers to
deploy tested, best
of breed solutions

Accelerate the **Use**
of Cloud Services



Enable customers to
deploy cloud services
to collaborate and
secure their business

Cisco Cloud Differentiation

Assured Cloud Experience

Cloud Data Center Innovation

Stateless Compute and Networking



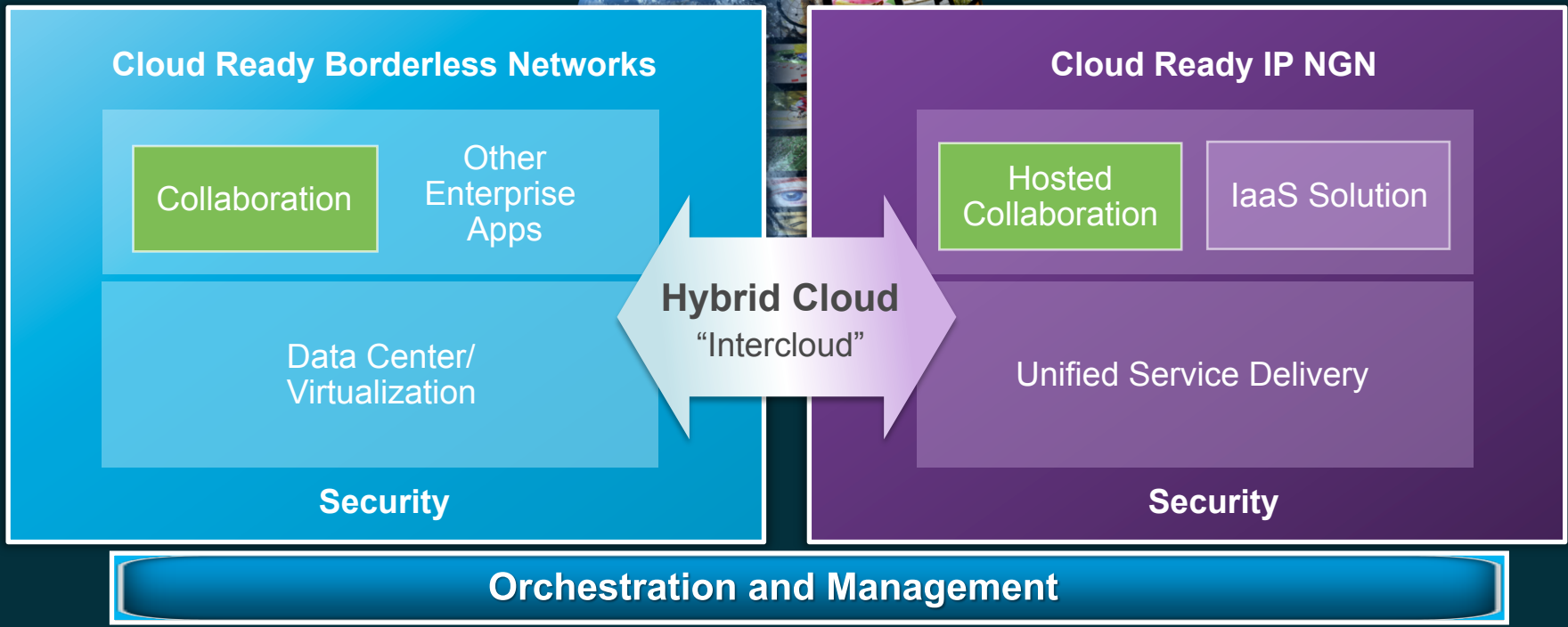
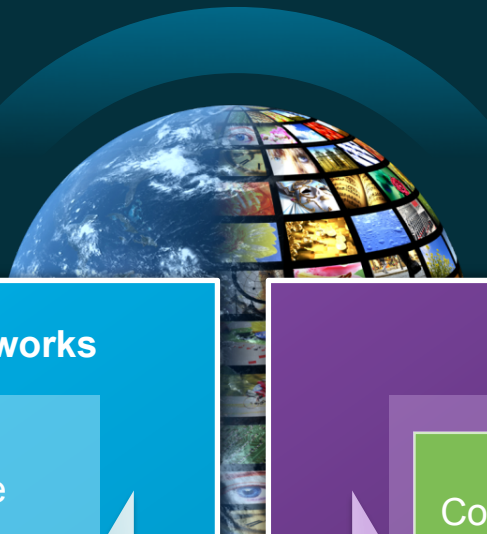
Cloud Aware Network

The Network Delivers the Cloud

The Journey to Cloud—Cisco Architecture

Enterprise/Commercial/
Government

Service Provider



Industry Leading Cloud Product Portfolio

Public
Cloud

Private
Cloud

Data Center

- Unified Computing
- Nexus and MDS
- Unified Network Services



Routing/ Switching

- ASR
- CRS
- ISR



Security

- IronPort
- ScanSafe
- TrustSec



Hosted Services

- Unified Communications
- Hosted Collaboration
- WebEx
- Telepresence



UCS: Designed for Cloud



A Platform for Today and Tomorrow's Data Center and Cloud.

Designed ground up for next generation data center

Integrated compute and networking

Tightly integrates x86 servers, adapters and LAN/SAN connectivity

Agility to seamlessly scale

API First: designed for automation from cloud portals

UCS Provides Innovation and Differentiation

Unified Fabric – Fabric Extenders

- Simplify I/O infrastructure and management
- Reduce support infrastructure up to 50% – NICs, HBAs, chassis interconnects, cabling

Embedded – Unified Management

- Single, highly available point of management
- Reduce management tools and consoles
- XML API designed for automation and cloud deployments

Extended Memory Technology

- More economical footprint for memory-intensive workloads
- Higher VM consolidation ratios
- Large-dataset workloads on two socket servers

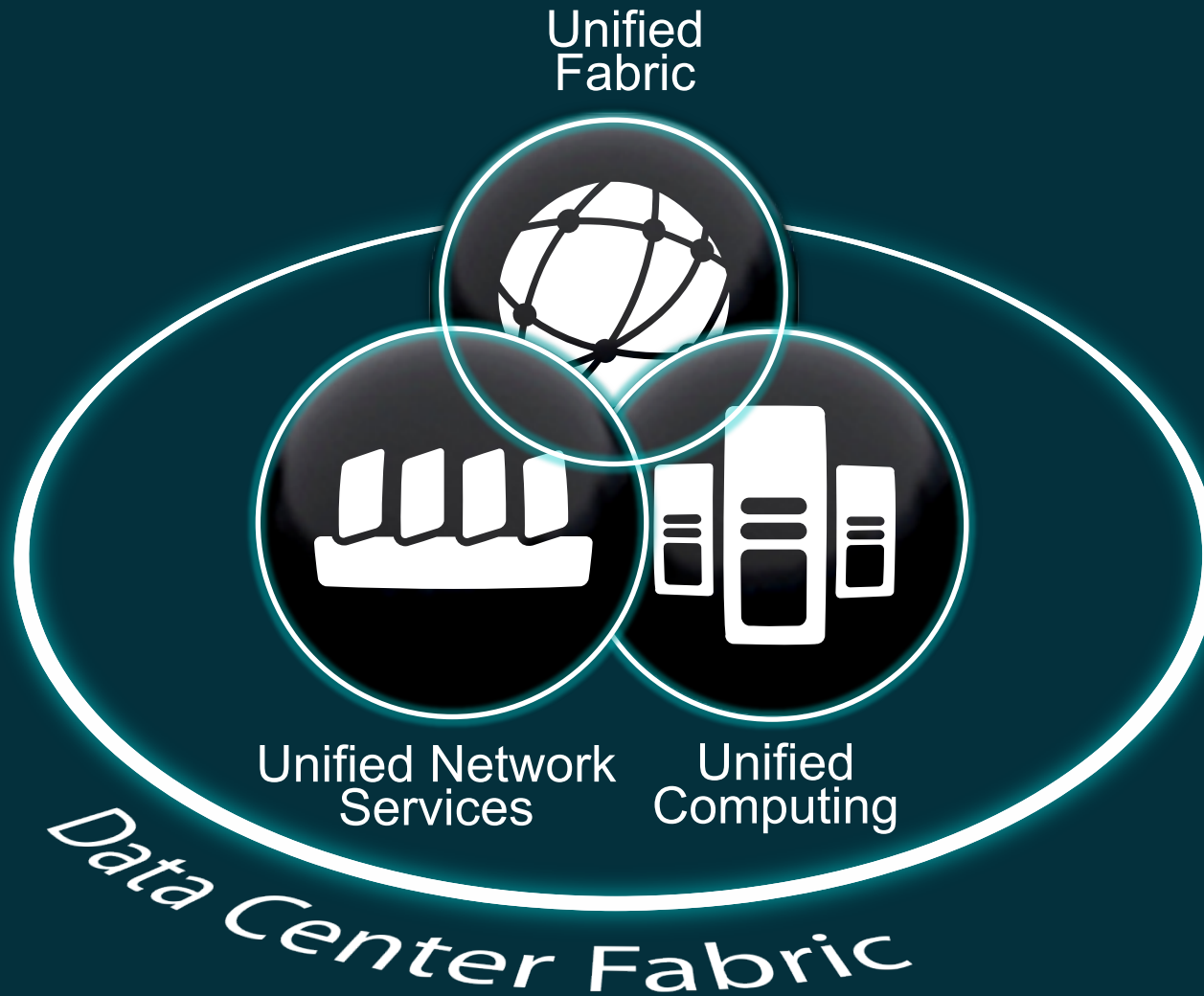
Virtual Adapters

- Flexible I/O consolidation
- Integration with leading Hypervisors

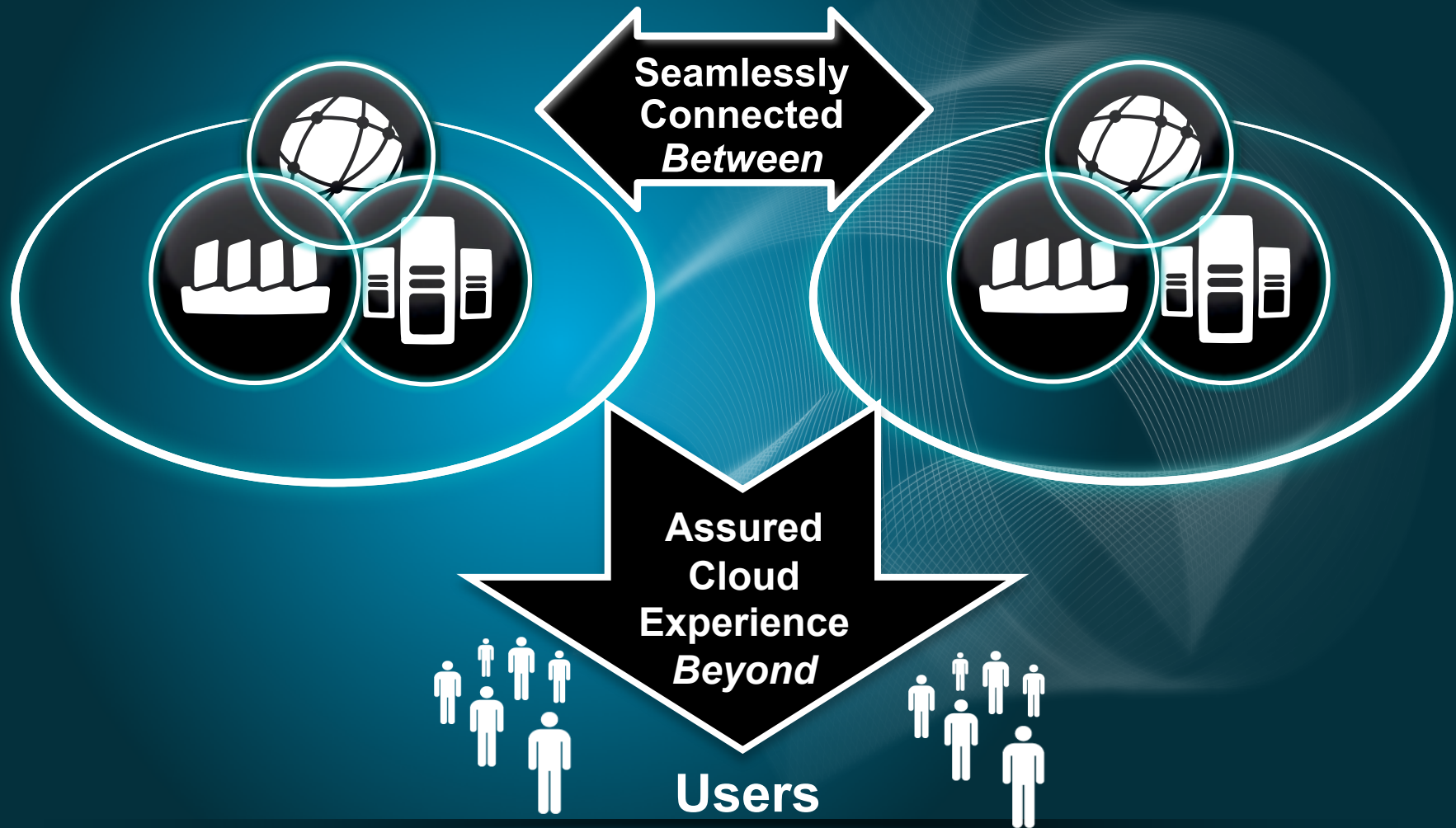
Stateless Computing – Service Profiles

- Configure servers and network connectivity as single action
- Faster provisioning – reduced spares inventory
- Abstracts automation from HW details, easing new HW introduction

Within the Cloud



Between Clouds and Beyond the Clouds



Cisco Delivering a Unified Cloud Fabric Services Within, Between, and Beyond the Cloud



The Path to a World of Many Clouds



World of Many Clouds

Integrated Cloud Ecosystems

Unified Cloud Fabric

Fabric within, between and beyond the Cloud

Hybrid Cloud

Connected clouds

Data Center Fabric

Integrated fabric within the data center

Virtualization/
Automation

Unified Computing

Agenda

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Cloud Implementation

The Promise of Private Cloud

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)

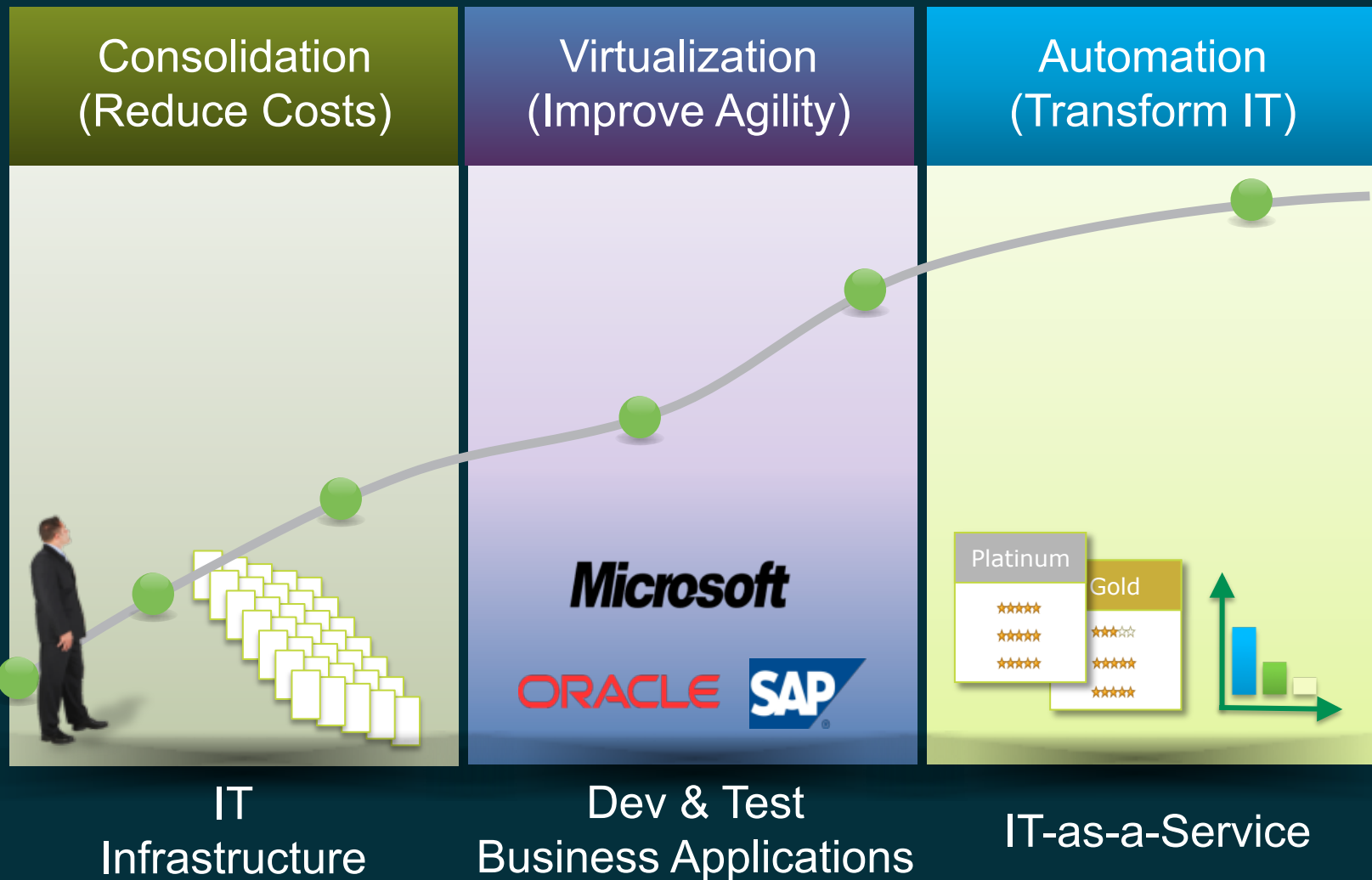
Flexible IT infrastructure, fast new service creation

Reducing total cost of ownership (TCO)

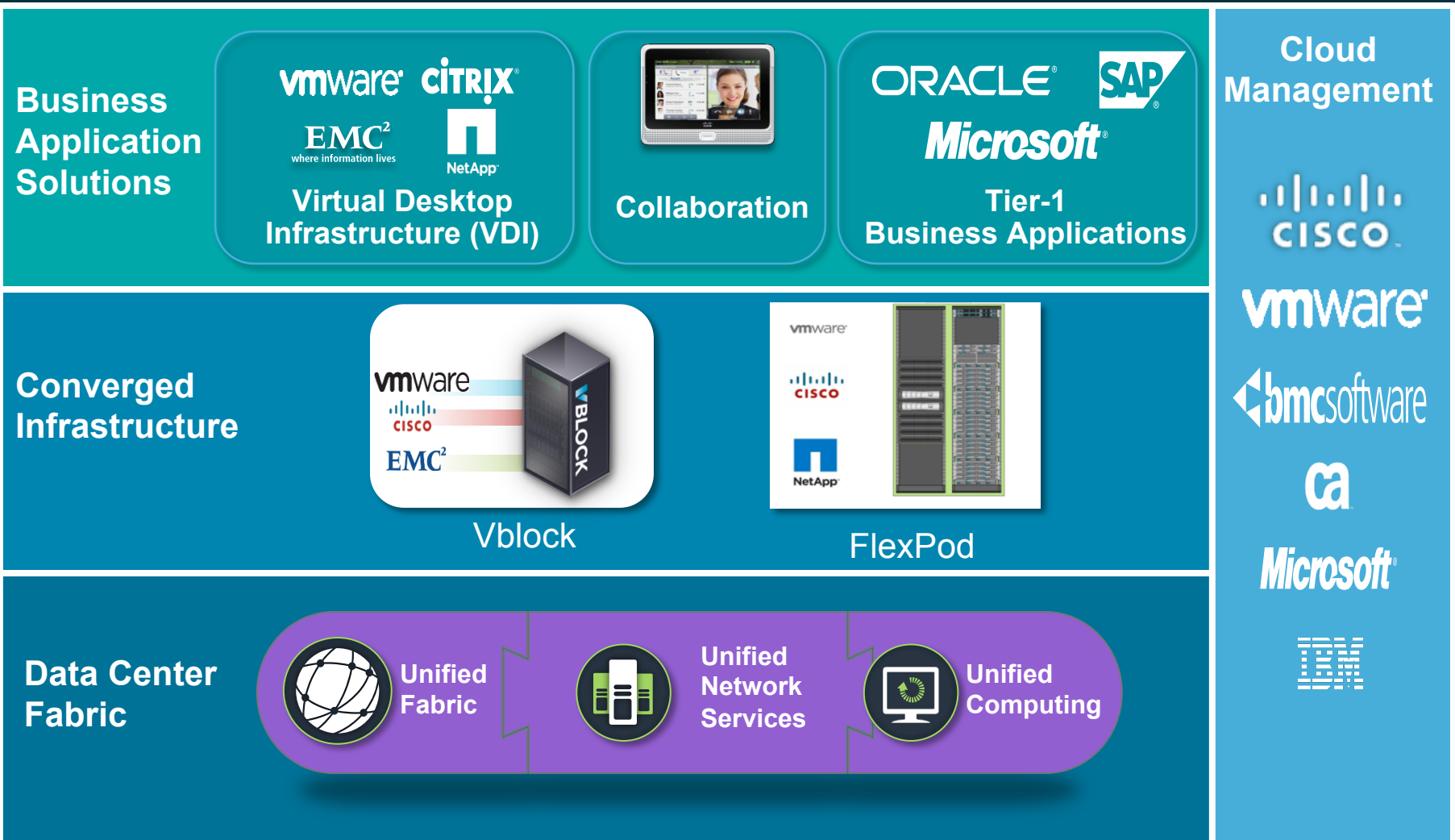
Business continuity, data security

The Journey to Private Cloud

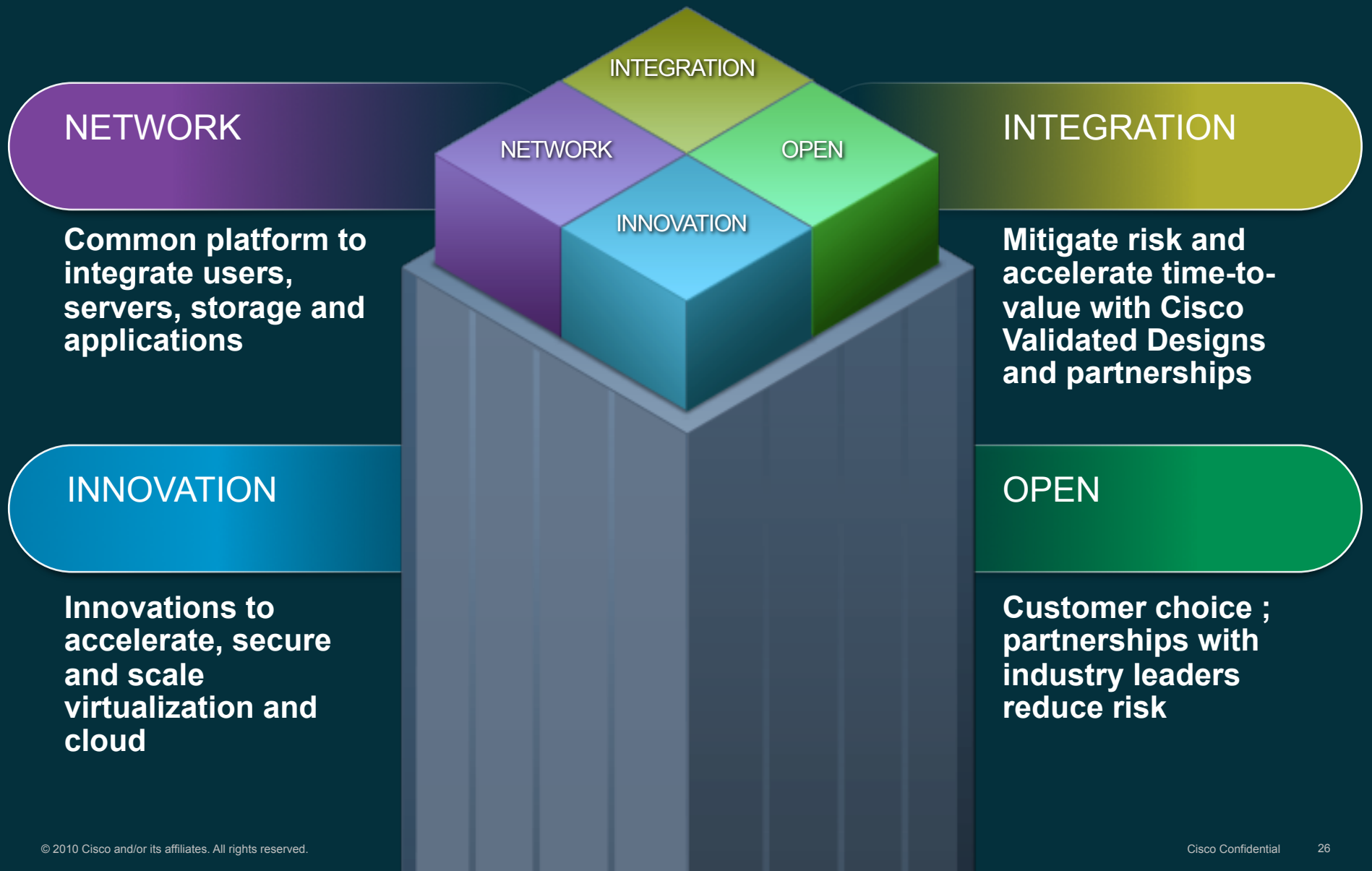
Evolution of IT and Business Agility



Private Cloud Architecture and Portfolio

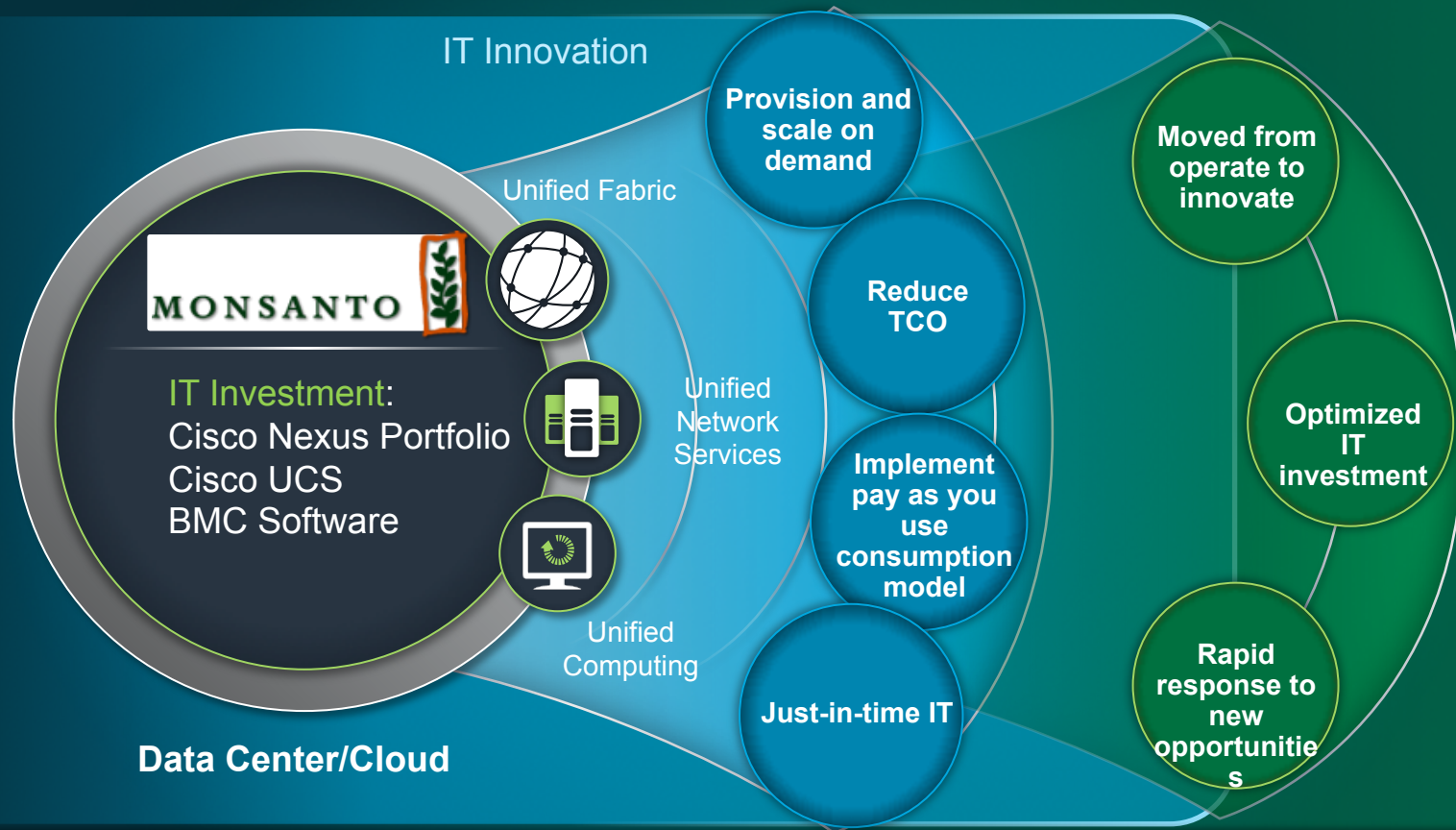


Cisco Differentiated Approach for Private Clouds



Delivering Business Advantage Private Cloud

Business Value



“The first day of the selling season is always exciting for Monsanto as it’s one of the busiest and we want to be ready to serve our farmer customers. IT plays a pivotal role in that. Because of the seasonality of our business, we need our systems to work flawlessly during peak periods like the sales and harvest seasons, and we need a reliable IT backbone to support our pipeline research.” **-Jeff Barks, Director, Monsanto**

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Cisco's Strategy and Differentiation

Private Cloud Solutions

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Cloud Implementation

Generate New Cloud Revenue Streams



Envision
differentiated
cloud services

Build and operate
cloud services

Market and sell
cloud services

Public Cloud Transforming Service Delivery



One Infrastructure, Multiple SP Services

Infrastructure
as a Service

Cloud
Collaboration
Services

TelePresence
Exchange
Service

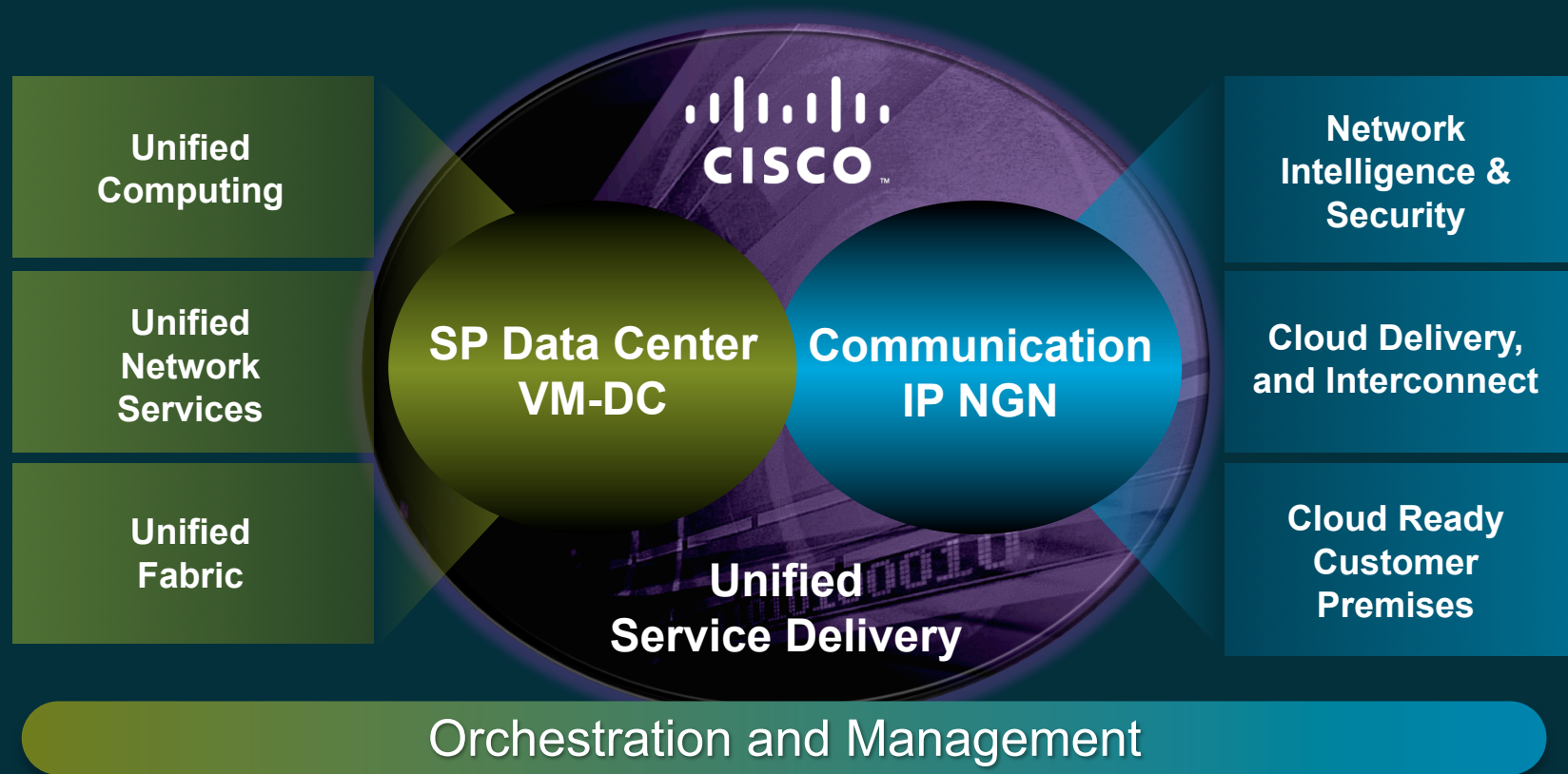
Etc...



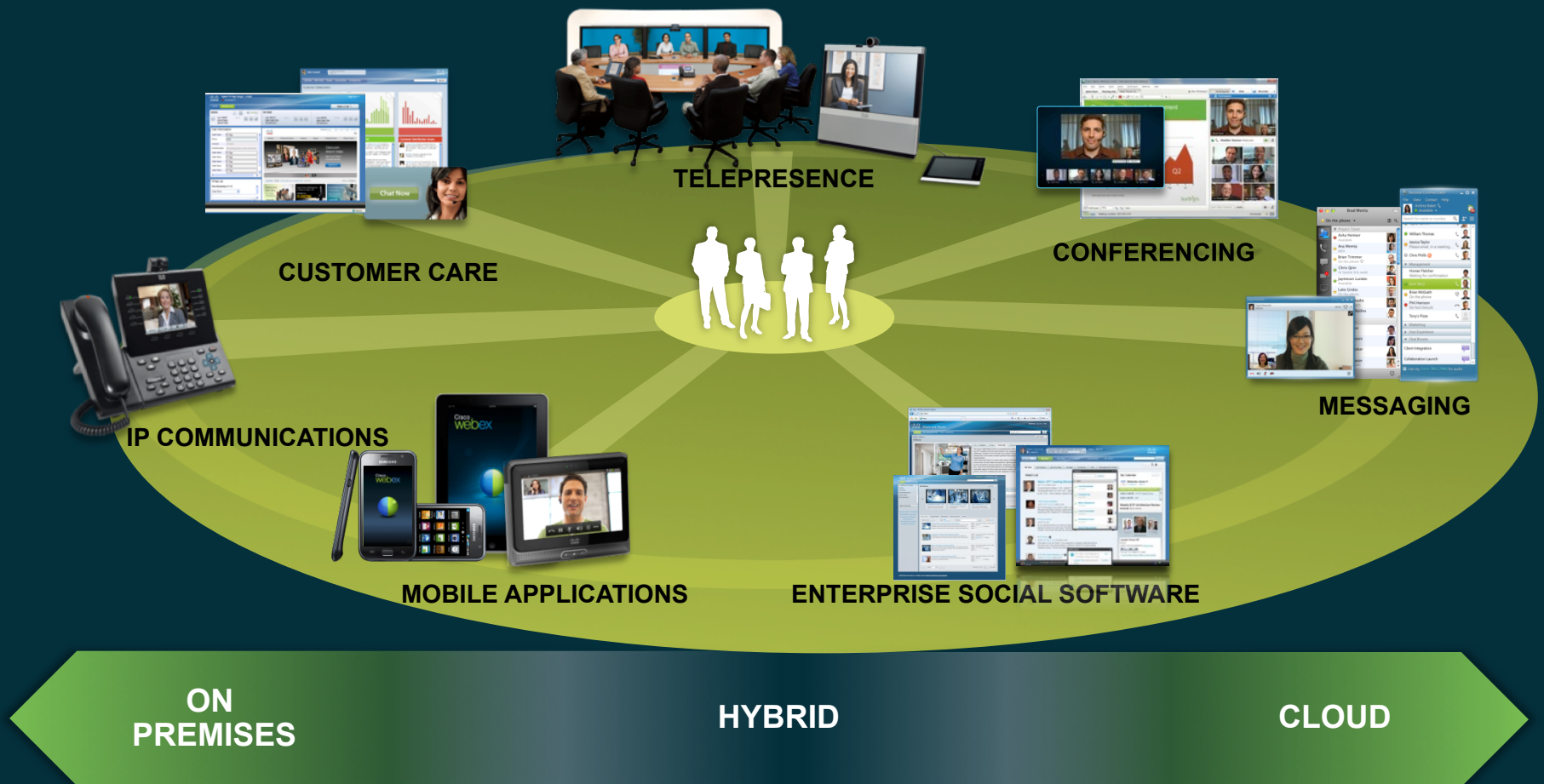
**Unified
Service Delivery**

Unified Service Delivery

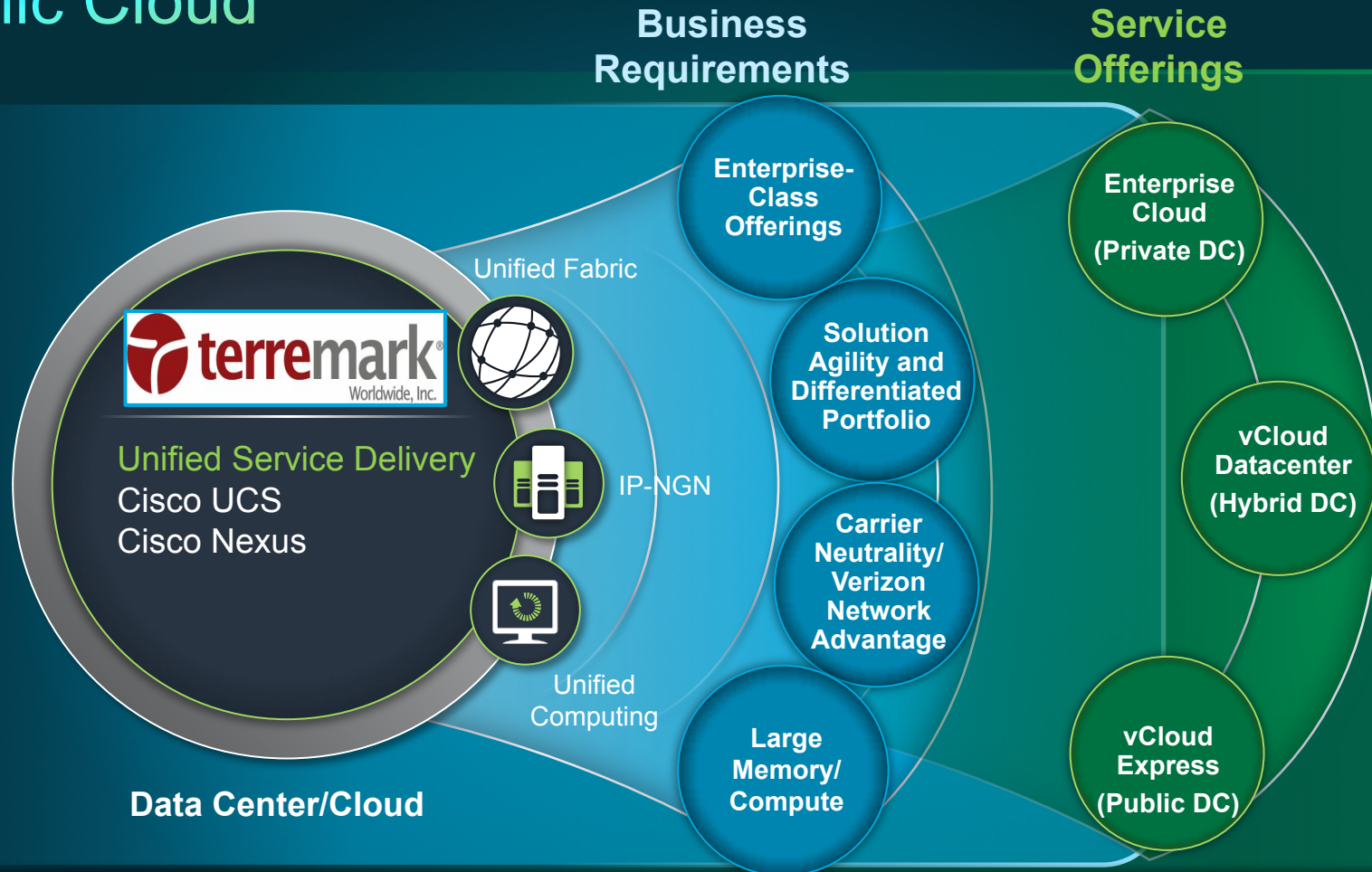
Foundation for Service Provider Cloud Services



Cisco Collaboration Portfolio



Unified Service Delivery Public Cloud



“Verizon and Terremark together bring exceptional capabilities to the marketplace with a highly differentiated and rationalized portfolio of cloud, security and IT offerings. With their combined assets and resources, Current Analysis believes the combination will be a formidable global data center services competitor; one that few will be able to match let alone beat.” - **Amy DeCarlo, Principal Analyst – Security and Data Center Services, Current Analysis**

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Cloud Opportunity

Cisco's Strategy and Differentiation

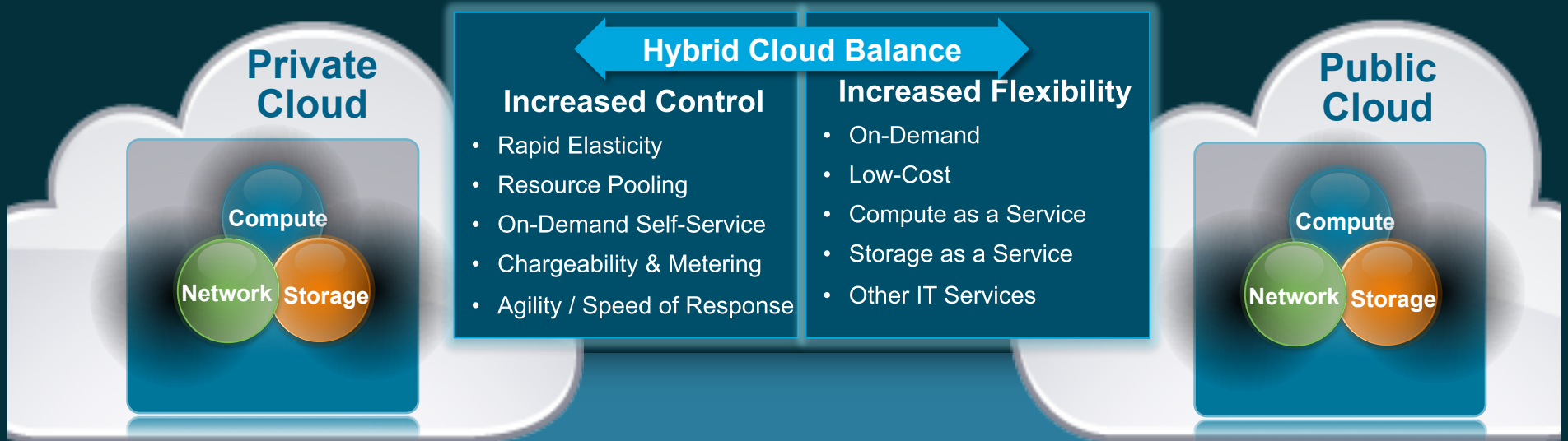
Private Cloud Solutions

Public Cloud Solutions

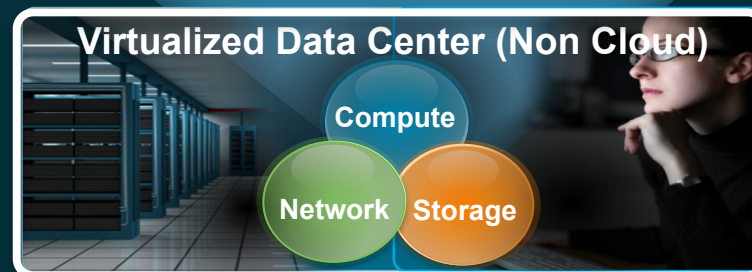
Hybrid Cloud Solutions

Cloud Implementation

Hybrid Cloud Expands Options



Cisco Connects Clouds:
OTV, LISP, MPLS



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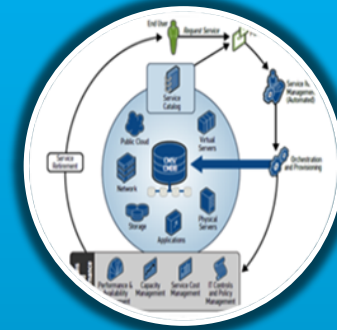
Cisco Cloud Management



Customer Choice
Cisco, VCE, BMC,
CA, IBM, ...



Enterprise/
Commercial
Cisco Intelligent
Automation for Cloud



Service Provider
BMC Cloud Lifecycle
Management

Industry leading domain managers for hypervisors, network and storage

Cisco Cloud Partner Ecosystem

Database /
Middleware

ORACLE[®] 11g
DATABASE

Microsoft[®]
SQL Server 2008

MySQL[™]

GIGASPACES

Greenplum

Mobility

QUALCOMM[®]

Research In Motion

SAMSUNG

NOKIA
Connecting People

Enterprise
Applications

ORACLE[®]
E-BUSINESS SUITE

SAP

Microsoft[®]
Exchange

Microsoft[®]
SharePoint Server 2010

Operating
Systems

Windows Server 2008 R2

redhat.

ORACLE



solaris

Virtualization

vmware

Microsoft[®]

CITRIX[®]

redhat.

ORACLE

Storage

EMC²

NetApp[™]

HITACHI

IBM

Management

bmcsoftware

Microsoft[®]

symantec.

EMC²
ca

Compuware

Zenoss[™]

vmware

IBM

Cisco Cloud Enablement Services

“What can Cloud do for my business?”



“What architecture maximizes virtualization, orchestration speed, and chargeback capabilities?”



“How do we realize our Cloud architecture on-time, within budget, and in our environment?”



“How do we ensure Cloud evolution and ongoing cost reduction?”



Accelerate Time to Value

Worldwide Expertise
Worldwide Presence

Proven Delivery
Capability

Delivering Unique
Cisco Insight

Cisco Cloud Partner Program

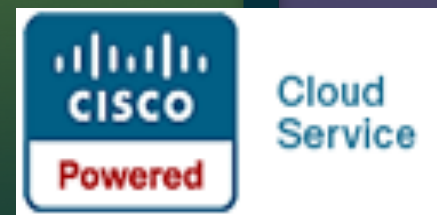
Cloud
Builder

Build and Sell
Cisco Centric Clouds
to Customers and
Cloud Providers



Cloud
Provider

Manage and Sell
Cisco Powered
Cloud Services to
Customers



Cloud
Services
Reseller

Resell Providers'
Cisco Powered
Cloud Services to
Customers

Enabling the Journey to Cloud Summary

- 1 Cloud momentum is accelerating
- 2 Cisco's strategy is to **enable** cloud providers
- 3 The network is the platform for the cloud and the core of Cisco's differentiation
- 4 Virtualization, automation, unified computing and the network are critical cloud elements
- 5 Only Cisco can provide a Unified Cloud Fabric for a World of Many Clouds

Thank you.



Networking and Servers: Cisco Product Investments for Cloud

Nexus and Catalyst Switching



Catalyst Family

Nexus Family

Routing



ASR Family

Unified Computing



UCS Family

Network Services



WAN
Optimization



Firewalls and Load Balancers

Storage Networking



MDS 9000 Family

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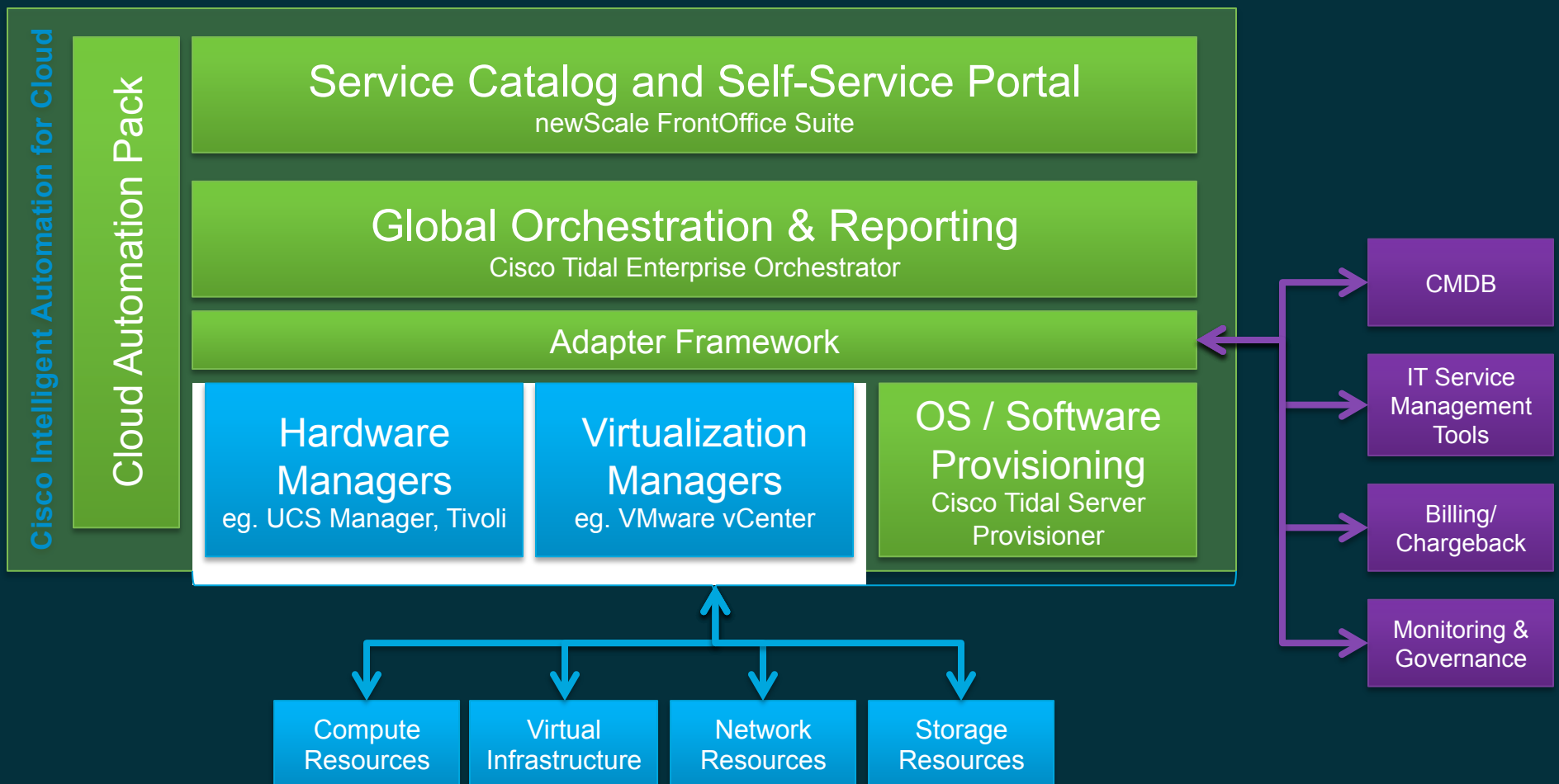
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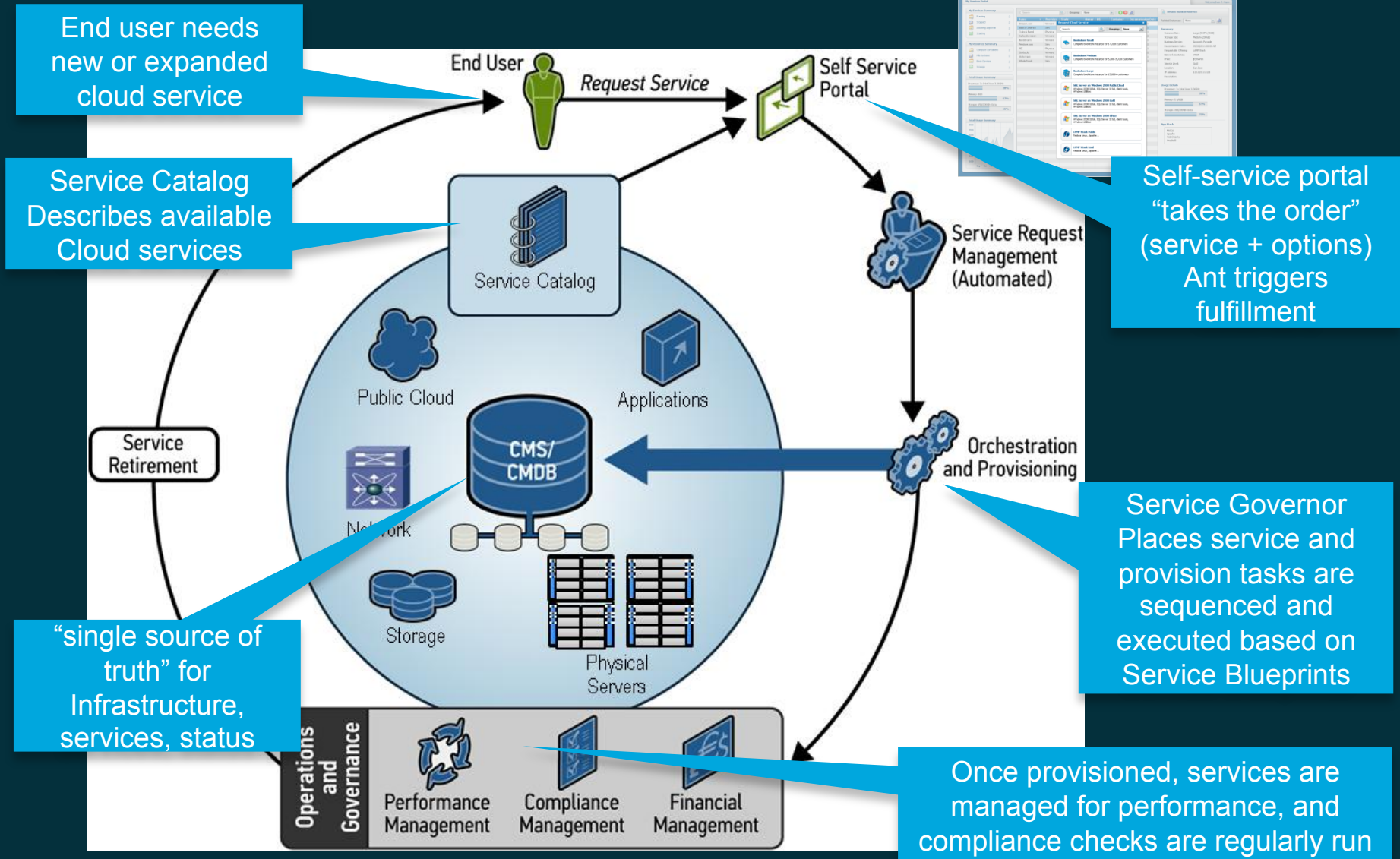
Cisco Data Center Fabric Characteristics



Cisco Intelligent Automation for Cloud



BMC CLM Orchestration Removes Silos



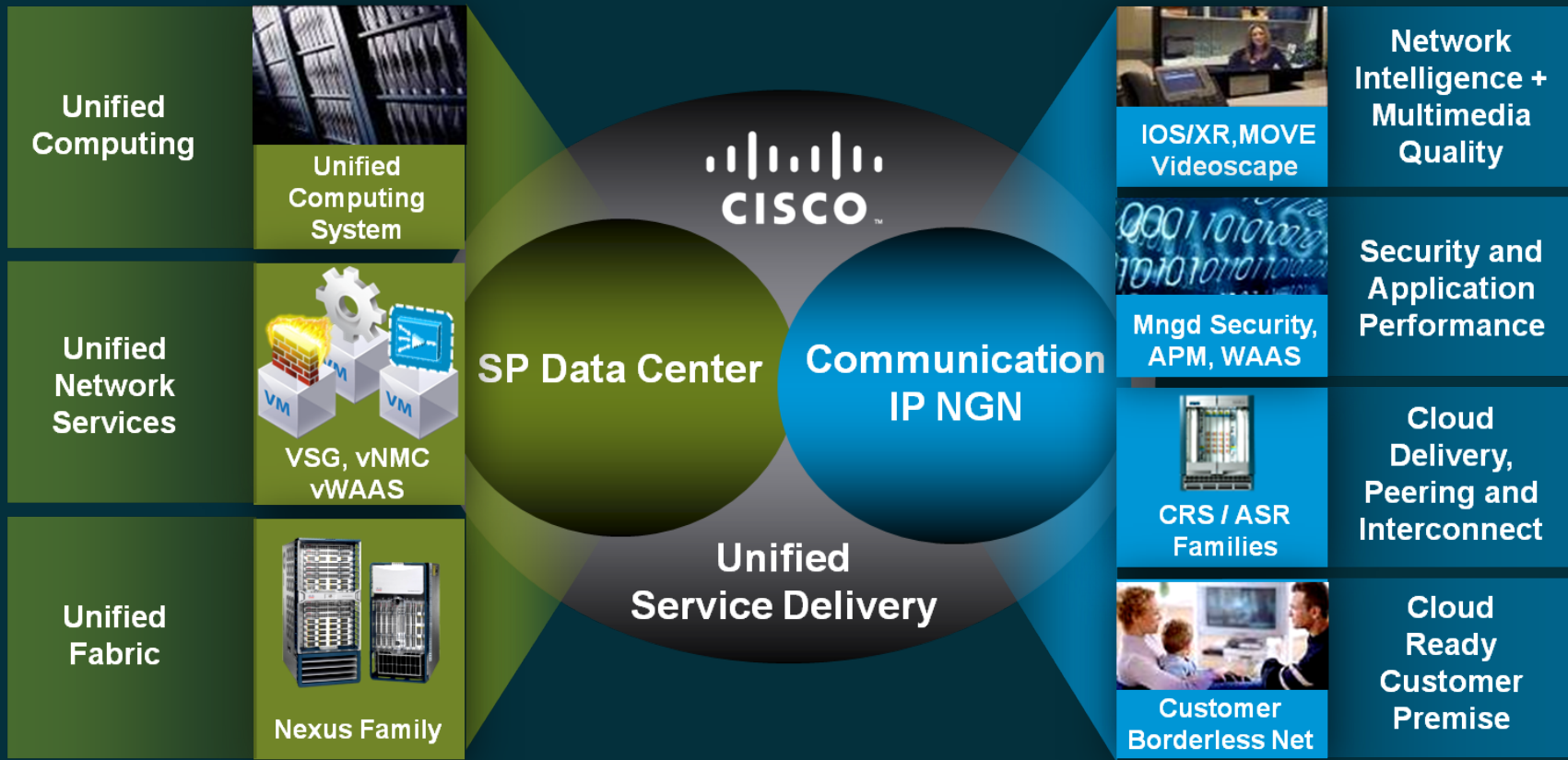
Unified Service Delivery

Foundation for Service Provider Cloud Services



One Infrastructure, Multiple Services

- Infrastructure as a Service
- Cloud Collaboration Services
- TelePresence Exchange Service
- Etc...



Orchestration and Management

Proprietary Software, Services Drive Cost

- Vendors “simplify” by adding another layer and providing professional services
- Result is a complex stack of management software to support servers & high costs
- Legacy mentality =
 - High OpEx
 - High CapEx
- Management complexity is driving server vendor service & software revenues

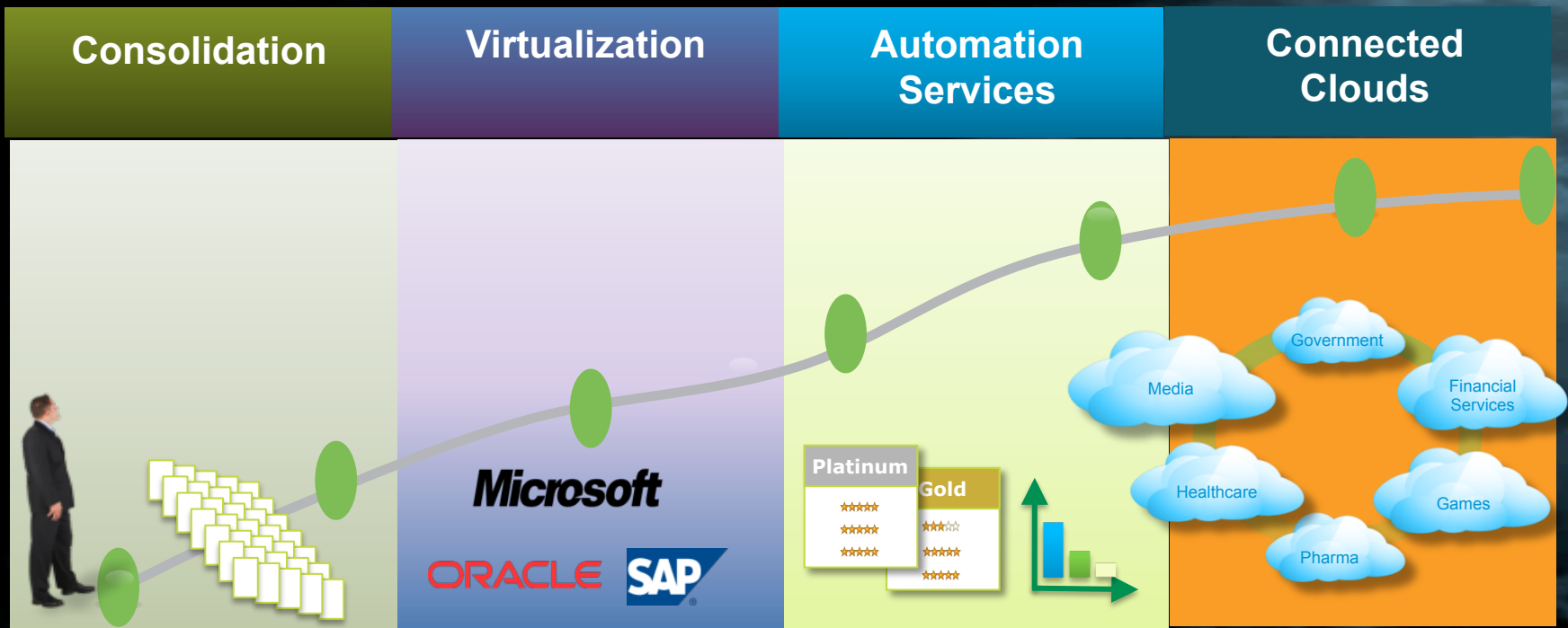


A New Architectural Approach Is Needed Tomorrow's Data Center Can't Be Built On Yesterday's Technology



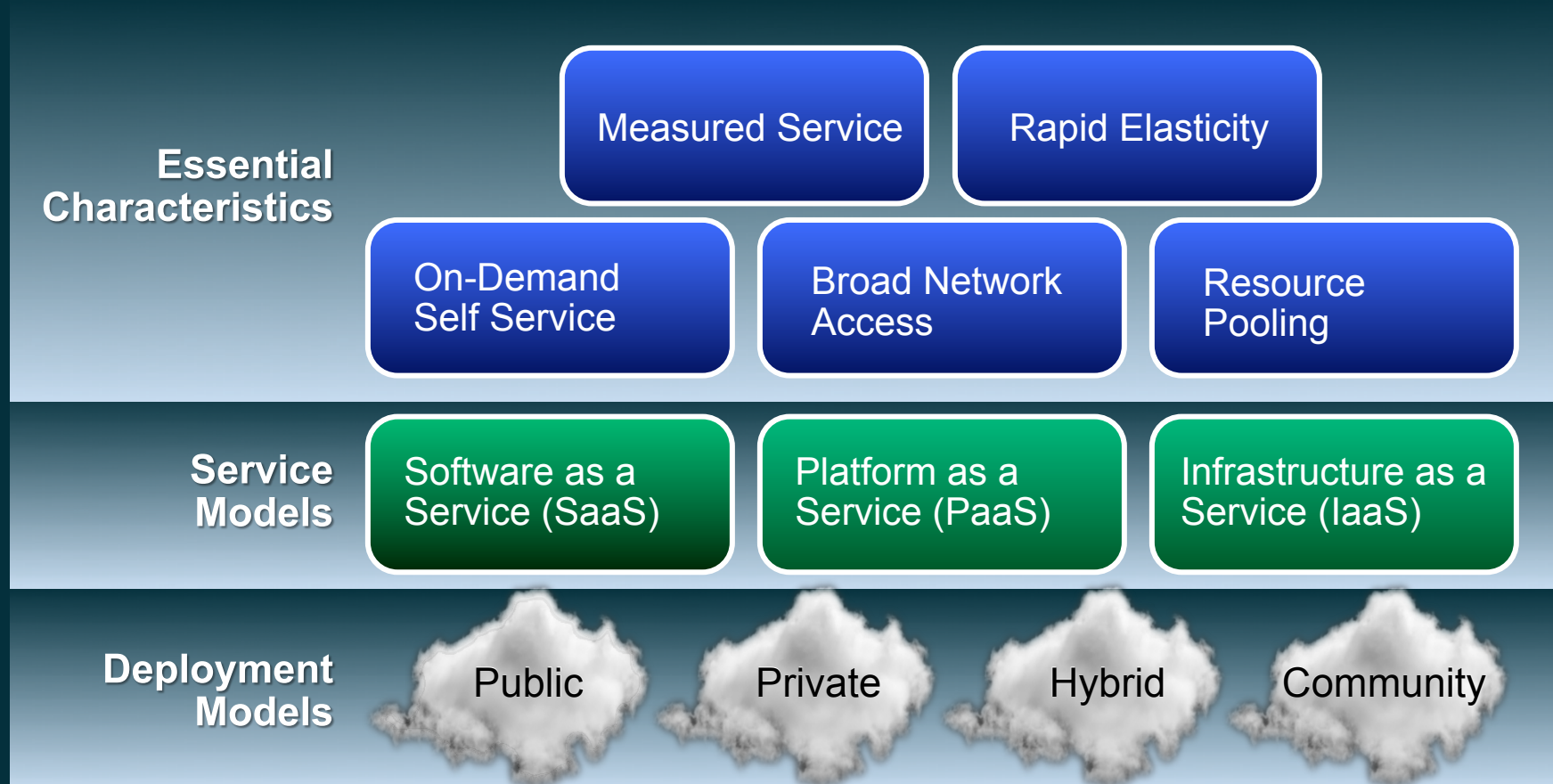
- Virtualization is changing the focus
 - Applications no longer tied to server hardware
 - Applications are now objects moving through the network
- The data center needs to evolve
 - Computing *and* networking have to change
 - Management needs to be native, not an after-thought
- Cisco is leading Data Center innovation
 - Cisco Unified Fabrics was the first step
 - Cisco UCS is the next step
- Cisco UCS is a clean sheet approach for next generation virtualized data centers

Customer Journey to the Cloud



Cloud Definition from NIST

Visual Model of NIST's Working Definition of Cloud Computing



<http://www.csrc.nist.gov/groups/SNS/cloud-computing/index.html>