

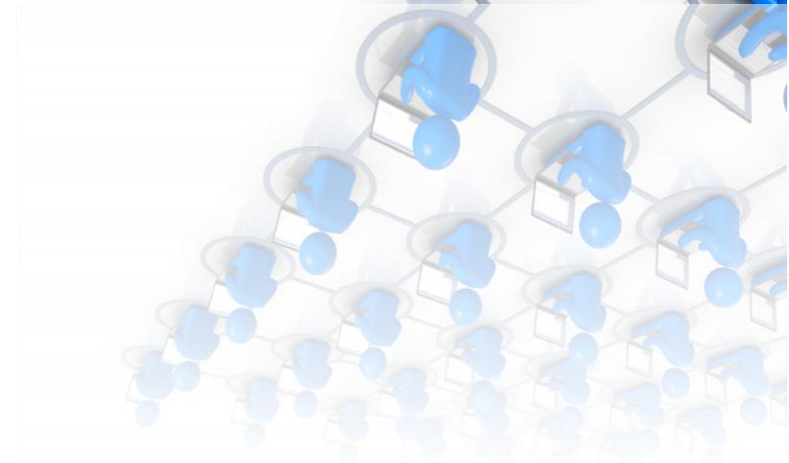


Changing the world virtually ... end to end Citrix & Cisco Virtual Desktop Solution

Damjan Mirtič

Regional Sales Manager,

Citrix Systems Inc. South East Europe



Market Leaders Team Up Based On Customer Demand



Market and innovation leader
in networking, security and
unified computing



Market and innovation
leader in desktop
virtualization

Delivering the world's first comprehensive
desktop virtualization solution with an end to end architecture
hardware + software + support

Committed to delivering the best desktop virtualization solutions together



- Leader in networking from desktop to data center
- Cisco Unified Computing System™ leads with over 30 world-record benchmarks in first year
- Cisco Unified Computing System deployed in 1700 enterprises in first year of shipping
- Tens of thousands of supported apps



- Over 4 million seats sold in 2010
- In production at 50 of the Fortune 100 companies
- Over 70 customers with over 10,000 seats and wins of 40,000, 125,000, and 140,000 users

Together, delivering a hardware and software solution that meets customers needs for simplicity, scalability, and lowest cost



Desktop Virtualization Market Adoption

Desktop virtualization will be the single hottest IT technology of 2012

- ✓ **Ultimate flexibility for users**
- ✓ **Unprecedented agility & control for IT**
- ✓ **Lower TCO for desktop management**



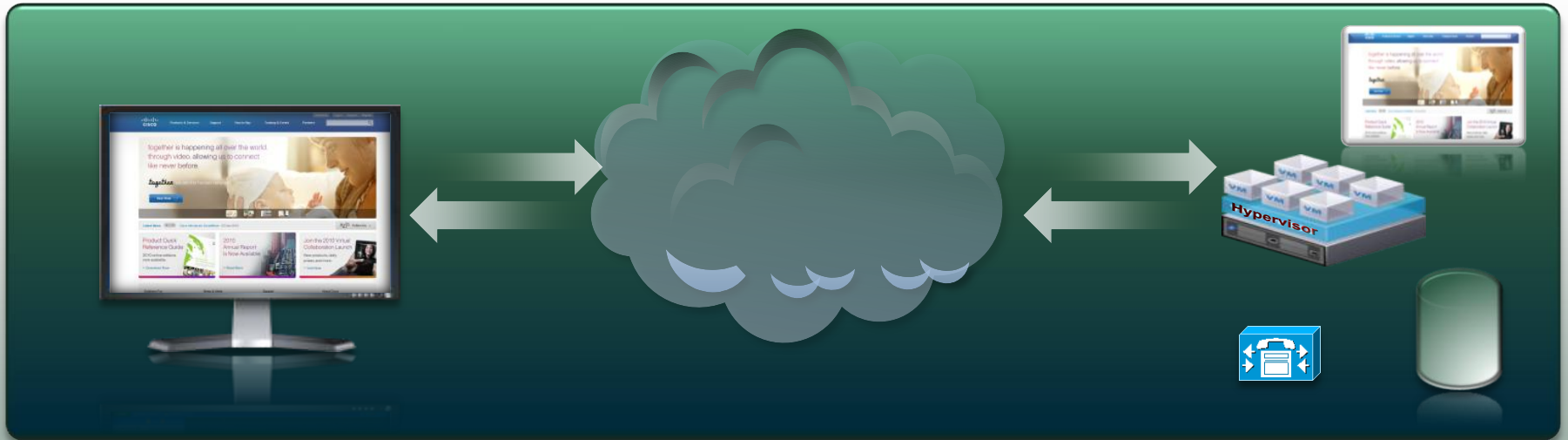
Desktop Virtualization Overview

- What is Desktop Virtualization?
- Business drivers



Desktop Virtualization

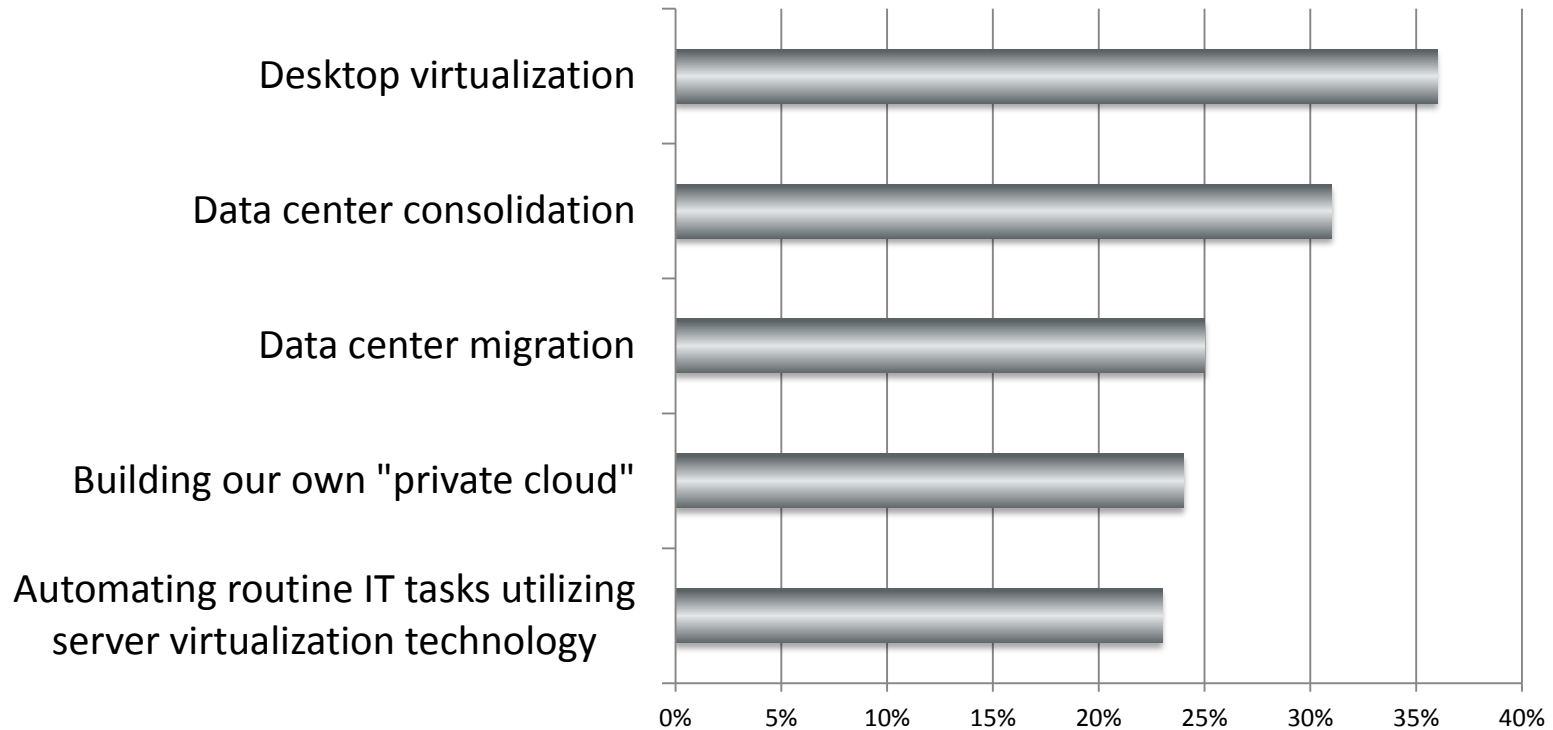
- Refers to the separation of the physical endpoint from the logical desktop
- Endpoints may be variety of devices; applications are hosted where ever the best user experience is offered (locally at endpoint or data center)
- Access from the endpoint to the logical desktop is delivered through the network



Desktop Virtualization is Top of Mind

Which of the following would you consider to be important IT initiatives for your organization over the next 12 – 24 months?

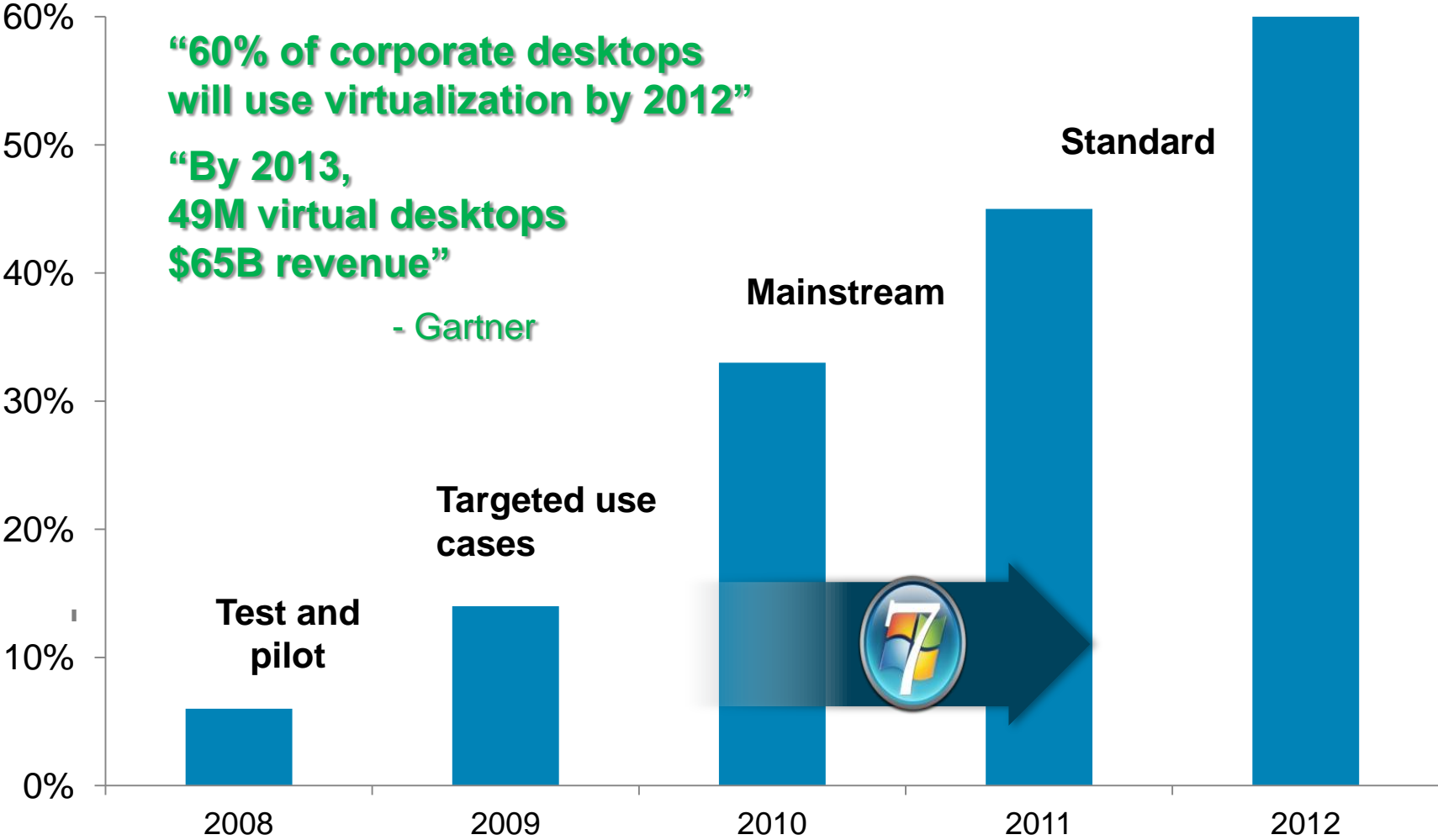
Percentage of Responses



Source: Enterprise Strategy Group, Dec 2010.

Desktop Virtualization - Going Mainstream

% of enterprise desktops



Challenges of the Traditional Desktop Environment





Consumerization

Here come the Tablets..... and with them, access requests.

Cisco Cius



Apple iPad



Desktop Virtualization Can Address This

User Settings
Applications
User Data
OS
Hardware



Environment
Decoupled from
Physical
Hardware

User Settings

Applications

User Data

OS

Any Device,
Anywhere,
Any Time

Traditional Desktop Delivered and
Managed One-by-One

Virtual Desktop Delivered
Across the Network

Why Desktop Virtualization Now

Top of Mind

- Desktop Administration
 - Windows 7
 - User Satisfaction

- Infrastructure Manageability
 - Security

- Agility
- Compliance
- TCO

- Availability
- Responsiveness
- Choice



IT: Desktop Manager



IT: Server Manager



CIO



End User

Desktop Virtualization

- Centralized Control
- Flexible Business Models

- Integrated Management
 - VM Control
 - Security

- Business Flexibility
- Data Protection
- Lower Opex

- Improved SLA
- Optimized User Experience
- Any Device

The Desktop Evolution

- Today:

- Desktop is a device
- Corporate ownership
- Imaged & deployed
- Allocated costs
- Capacity is fixed

Tomorrow:

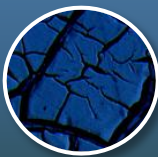
- Desktop is a service
- Personal devices
- Self-service experience
- Consumption-based costs
- Capacity is elastic

What We've Heard From Customers...

Desktop Virtualization Challenges



Maintaining High Quality for Video, Voice Experience



Fragmented Solution Set



Return on Investment



Old and New Security Challenges



Cisco and Citrix: Cisco Desktop Virtualization with Citrix XenDesktop

- Citrix App/Desktop Virtualization



Citrix FlexCast

Any user
any device



Any type of
virtual desktop

One centrally managed solution

Supporting Different User Types

Task Workers



- factory worker
- retail clerk
- bank teller
- credit card call center

- simple
- locked down
- few apps

Remote Workers



- offshore workers
- outsourcers, contractors
- branch offices
- teleworkers

- secured access and control
- location and device flexibility
- diverse apps and users

Office Workers



- finance
- operations
- marketing
- administration

- rich PC experience
- personal
- diverse apps and users

Guest Workers



- university
- computer lab
- training center

- rich PC experience
- instant resets
- standard app set

Mobile Workers



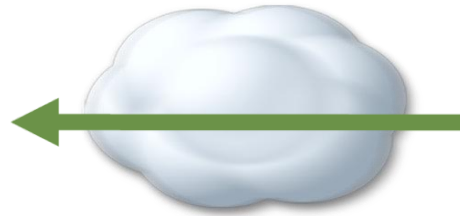
- sales
- executives
- field service

- offline access
- secure
- diverse apps and users

Desktop Virtualization is More than Just VDI



Any Device



High-Definition Delivery



Optimized Infrastructure



Desktop Delivery Technologies

Task Workers



Remote Workers



Guest Workers



Office Workers



Mobile Workers



Hosted
Shared
Desktops

Hosted
VM-based
Desktops

Hosted
Blade PC
Desktops

Local
Streamed
Desktops

Virtual Apps
Installed
Desktops

Local
VM-based
Desktops

Terminal
Services

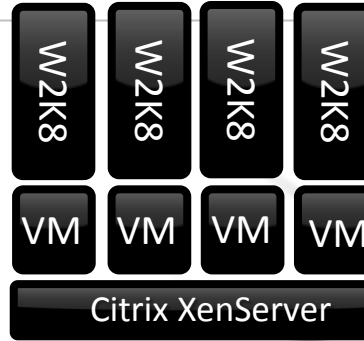
VDI

Server Side Compute

Client Side Compute



40 Users/VM
500 Users pro Server



1 User/VM
60 VMs pro Server



1 User pro Blade PC



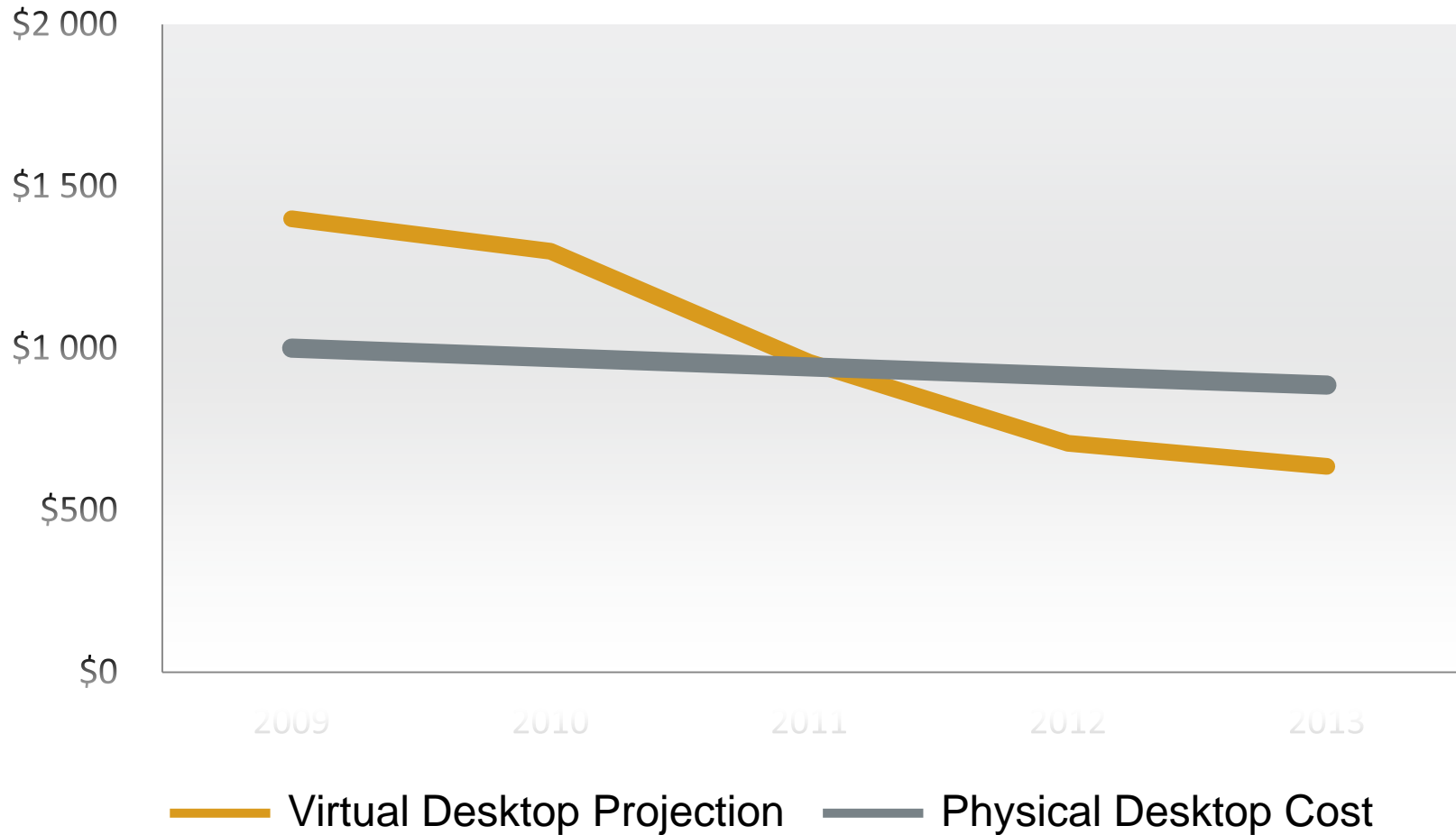
User Profile

Apps

OS



Virtual Desktops Costs Are Trending Down

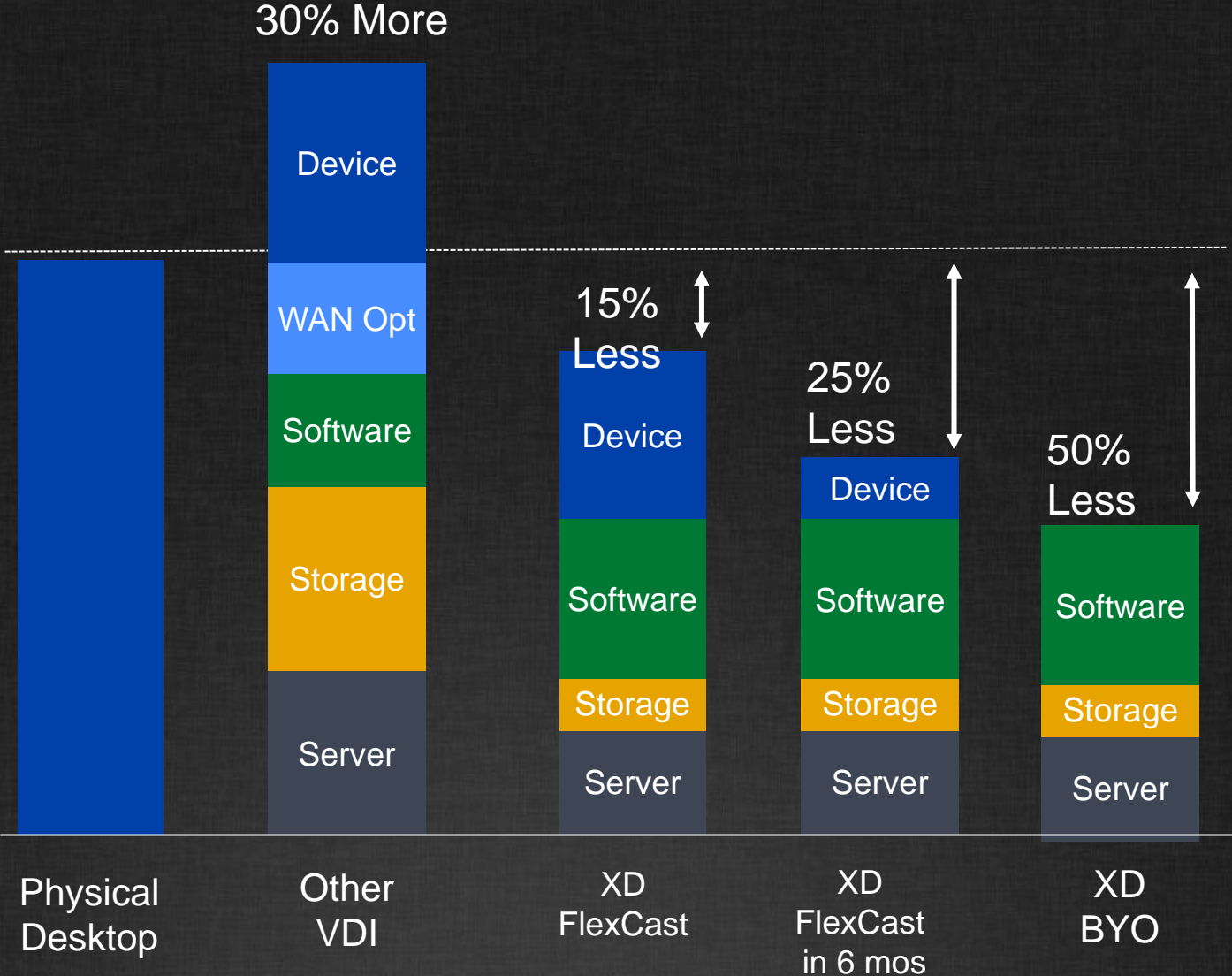


*Analysts forecast the standalone virtual desktop market to grow more than \$1B in 2013



Device

Service



Access Windows, web or SaaS apps from anywhere





Multimedia

Collaboration

Peripheral Connectivity

Network Performance

3D Applications

WAN Optimization

Simple, secure access

HDX is Far More than Just a Protocol

If possible,

Render on the endpoint device



Inspect
Endpoint

2

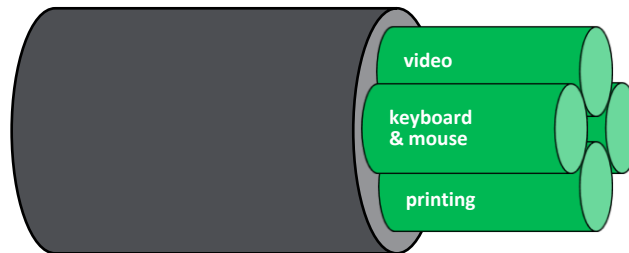
Inspect
Network

Fallback:

Server-side rendering in the
datacenter



Inspect
Server



Up to 90% less bandwidth than competing solutions

Any Device, Anywhere... with Receiver™



- Leverage the latest devices with a universal client
- Enable end-user flexibility, choice and productivity
- Secure application data with XenVault™
- Simple, fast, self-service installation and auto-updates



Thin & Diskless PCs



PCs & Macs



Smartphones



Tablets



Fully Touch-enabled – even legacy apps





Cisco and Citrix: Cisco Desktop Virtualization with Citrix XenDesktop

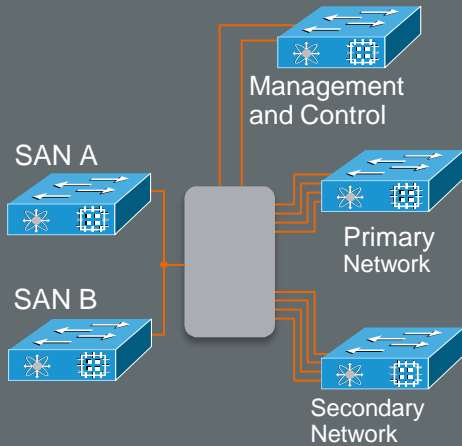
- Cisco end-to-end Architecture for Desktop Virtualization



Virtual Desktop Deployment: Infrastructure Architecture Is Critical

Centralized

Other Desktop Virtualization Solutions



Inefficient
Complex
High Cost
Fragile

Decentralized

Today

Traditional Desktops



Inefficient
Unsecure
High Cost
Non-compliant

Simplified

Cisco Desktop Virtualization Solution with Citrix XenDesktop



Efficient
Agile
Cost Effective
Transformative

Cisco Desktop Virtualization Solution

Simplified Deployment

- UCS Service Profiles: Simplified Deployment and Scale
- Desktop Virtualization Services
- Cisco Validated Designs:
 - Citrix XenDesktop
 - Support for EMC and NetApp Storage

Lower Cost

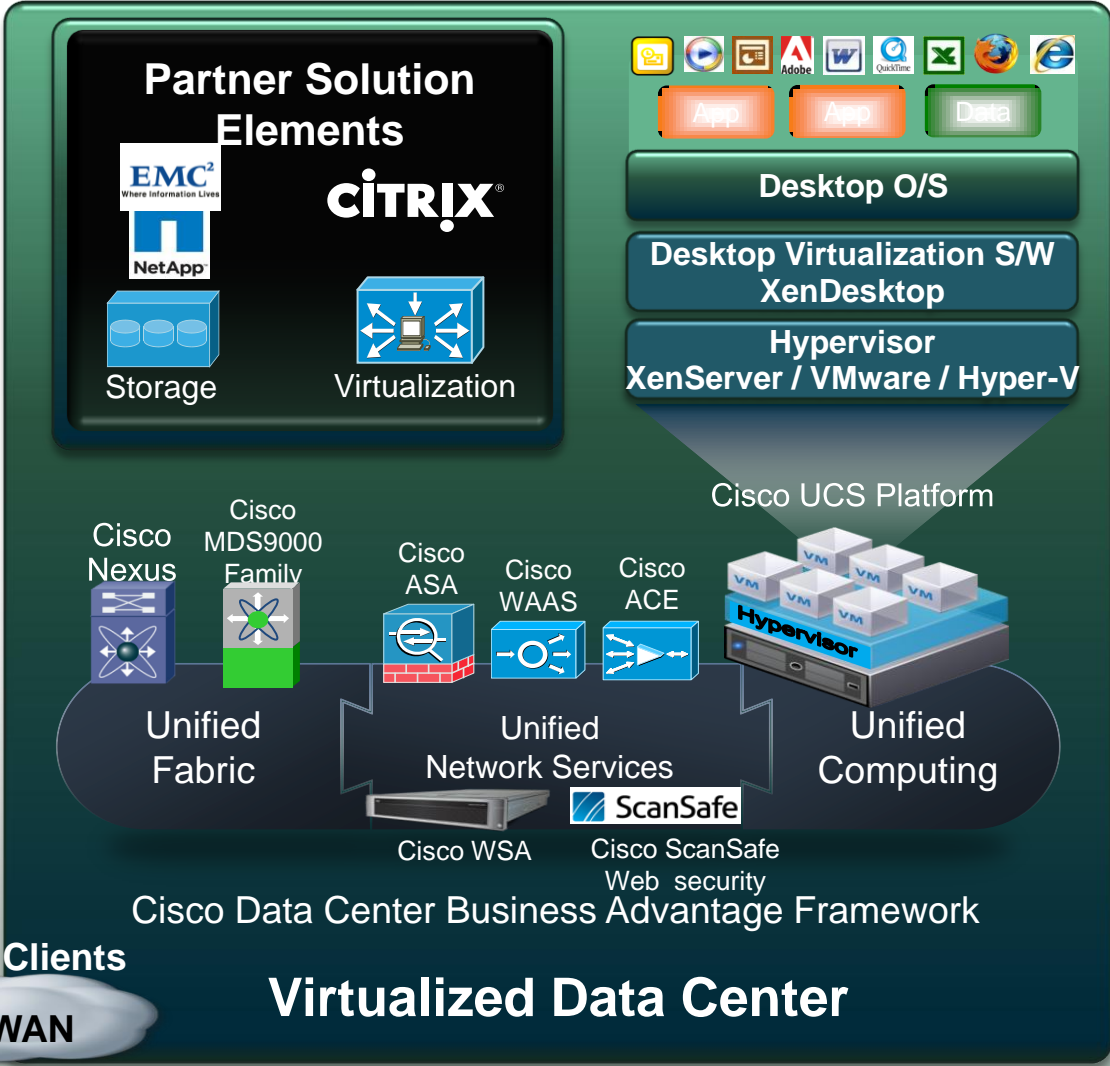
- 60% greater density of virtual desktops per server blade
- 1/3 cost of networking infrastructure
- Over 20% savings per seat

Improved User Experience

- Bandwidth optimization and Rich Media acceleration

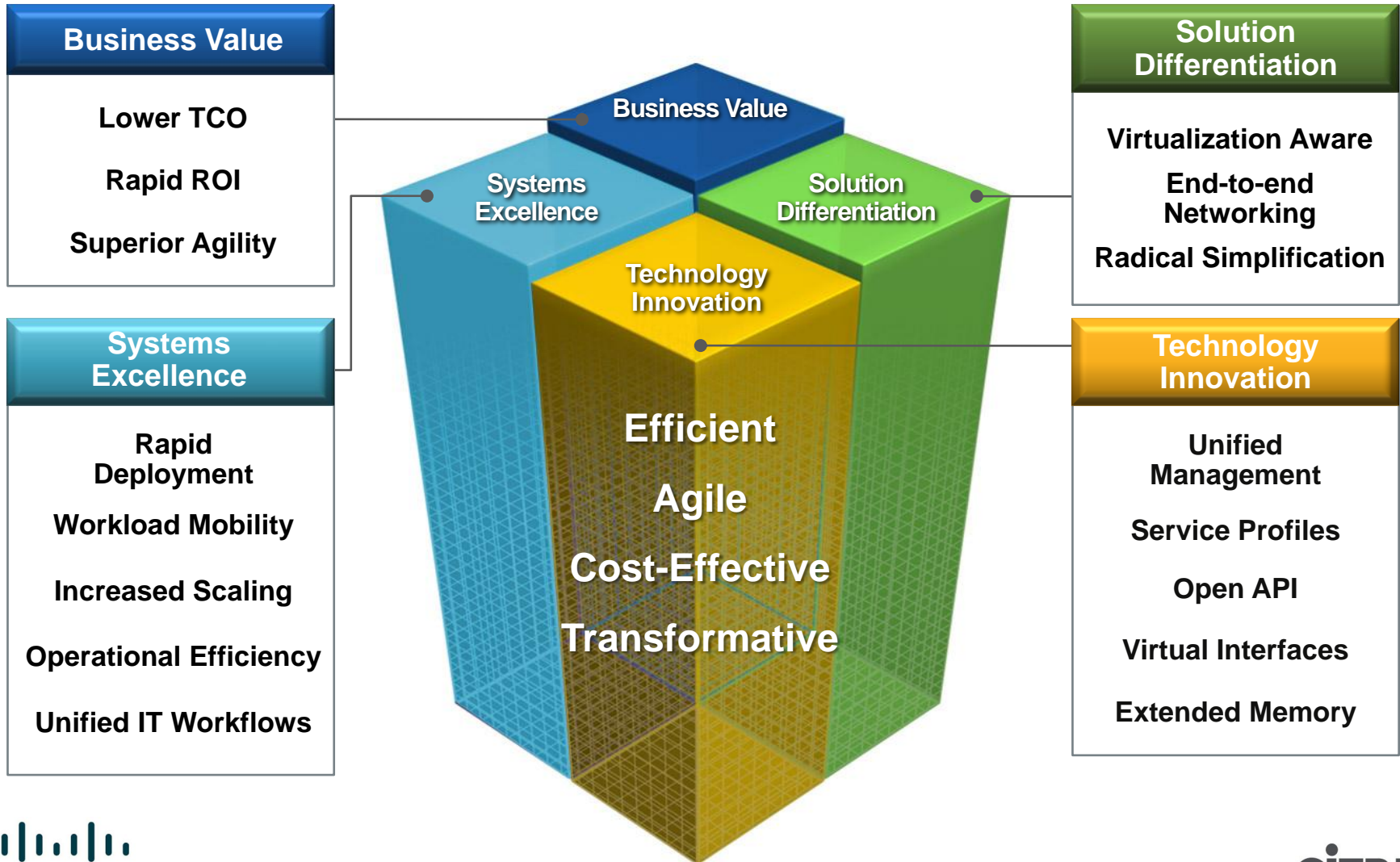
Optimum Security

- Inter VM FW
- VPN Remote Access
- Web security



Cisco Unified Computing System

Innovation Unites Computing, Networking, Virtualization, and Storage Access



Cisco UCS Solution for Desktop Virtualization

Unique Benefits Due to Key UCS Technologies

UCS Service Profiles

- *Rapid provisioning for additional users.*
- *Templates for standardization*

UCS Extended Memory

- *Windows 7 64-bit requires 2GB of memory*
- *Perfect balance of Memory/CPU*

Virtual Interface Card (“Palo”)

- *Multiple interfaces to present to hypervisor or VM*

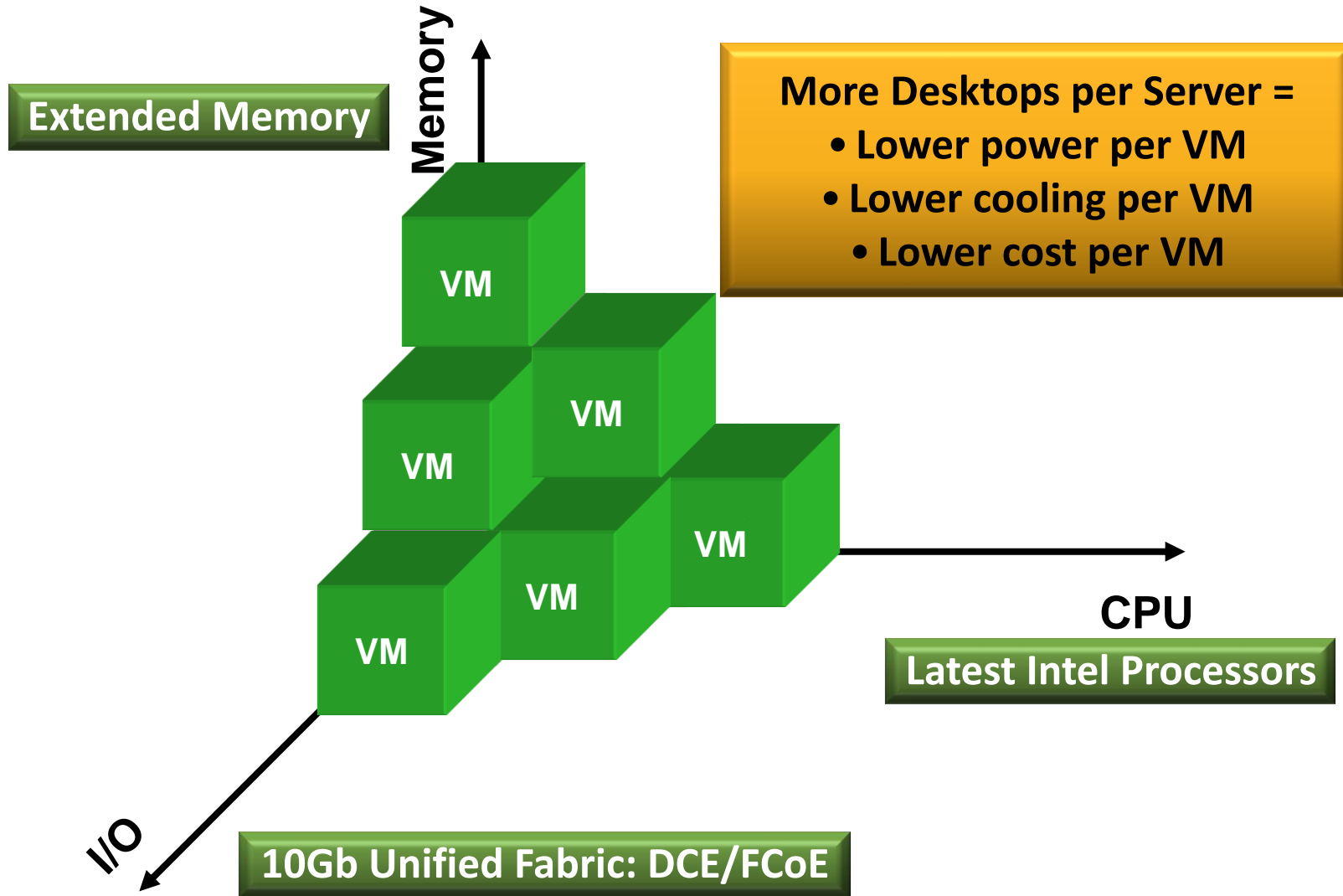
Unified Fabric (FCoE)

- *Reduced infrastructure*
- *Grow users not infrastructure*



UCS is an ideal platform for Desktop Virtualization

A Balanced System for Desktop Virtualization



Cisco Unified Computing System Ideal Platform for Citrix XenDesktop



20% lower cost for compute + network infrastructure

60% greater virtual desktop density w/o performance impact

Simple Operation - start in minutes, scale in seconds

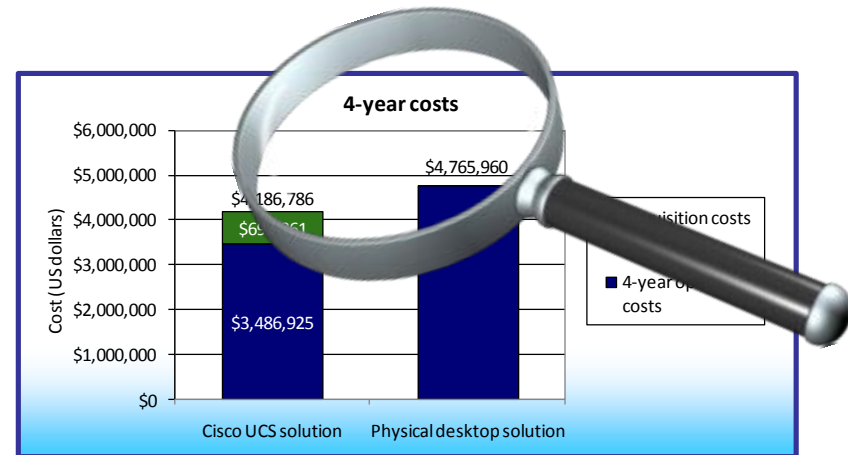
Massive Scalability - scales to 320 servers / 1000's of desktops per UCS system

Extended memory and I/O to avoid desktop virtualization bottlenecks

Lower TCO

Cisco®:

- High density platform
- Integrated infrastructure management
- Lower power and space



Citrix:

- Broad choice to meet specific use cases / costs

Together:

- Cisco + Citrix VDI solution provides lower TCO than traditional desktops*
- Investment protection to support new XD versions and desktop operating systems

Take the Risk Out of Getting Started

Cisco Desktop Virtualization Solution with Citrix XenDesktop

Scalable starter packs and expansion units optimized for VDI-based desktops and hosted shared desktops

- Starter pack supports more than 300 virtual desktops
- A single Cisco Unified Computing System™ instance, designed to support 320 blade servers,
- Scale from POC to thousands of virtual desktops with same architecture

**Cisco® UCS
Base Pack
for Desktop
Virtualization**



**Cisco UCS
Expansion Pack
for Hosted
Shared Desktops**



**Cisco UCS
Expansion Pack
for VDI-Based
Desktops**



Design Validations & Reference Architecture

Committed to Your Success

Best Practice Design Zone

Operational Best Practices

Cisco Validated Designs

Desktop Virtualization Services

More...

Cisco Interactive Design Zone for Data Centers

Enterprise: Cisco Validated Designs (CVDs) | Start | Enterprise | Service Provider | Partner Ecosystem | Resources

Products & Services | Support | How to Buy | Training & Events | Partners

Data Center Designs: Desktop Virtualization
 Desktop Virtualization with XenDesktop and NetApp Storage

10-Gigabit Ethernet

Virtualize the Desktop
 Learn more about Cisco Desktop Virtualization solutions with Citrix XenDesktop and NetApp.
 ▶ View Design Guide

Reference Architecture-Based Design for Implementation of Citrix XenDesktop on Cisco Unified Computing System, Citrix XenServer, and NetApp Storage
 Cisco Validated Design
 August 2010

Data Center of the Future

Reference Architecture
 Sep, 2010
 Add comment on this guide
 Get design and configuration environments with:

- Cisco Unified Computing
- NetApp storage
- Virtual desktops hosted or

Learn how to combine Citrix to:

- Reduce operating costs
- Increase control of desktop
- Extend business continuity

Cisco Desktop Virtualization Solution with Citrix XenDesktop. Deliver Desktops and Applications as On-Demand Services

<http://www.cisco.com/go/citrix>
<http://www.cisco.com/en/US/netsol/ns1004/index.html>
<http://cisco.com/go/dcservices>



Two Reference Architecture based Cisco Validated Design for Implementing XenDesktop on UCS



Reference Architecture–Based Design for Implementation of Citrix XenDesktop on Cisco Unified Computing System, Citrix XenServer, and NetApp Storage

Cisco Validated Design

August 2010

Data Center of the Future

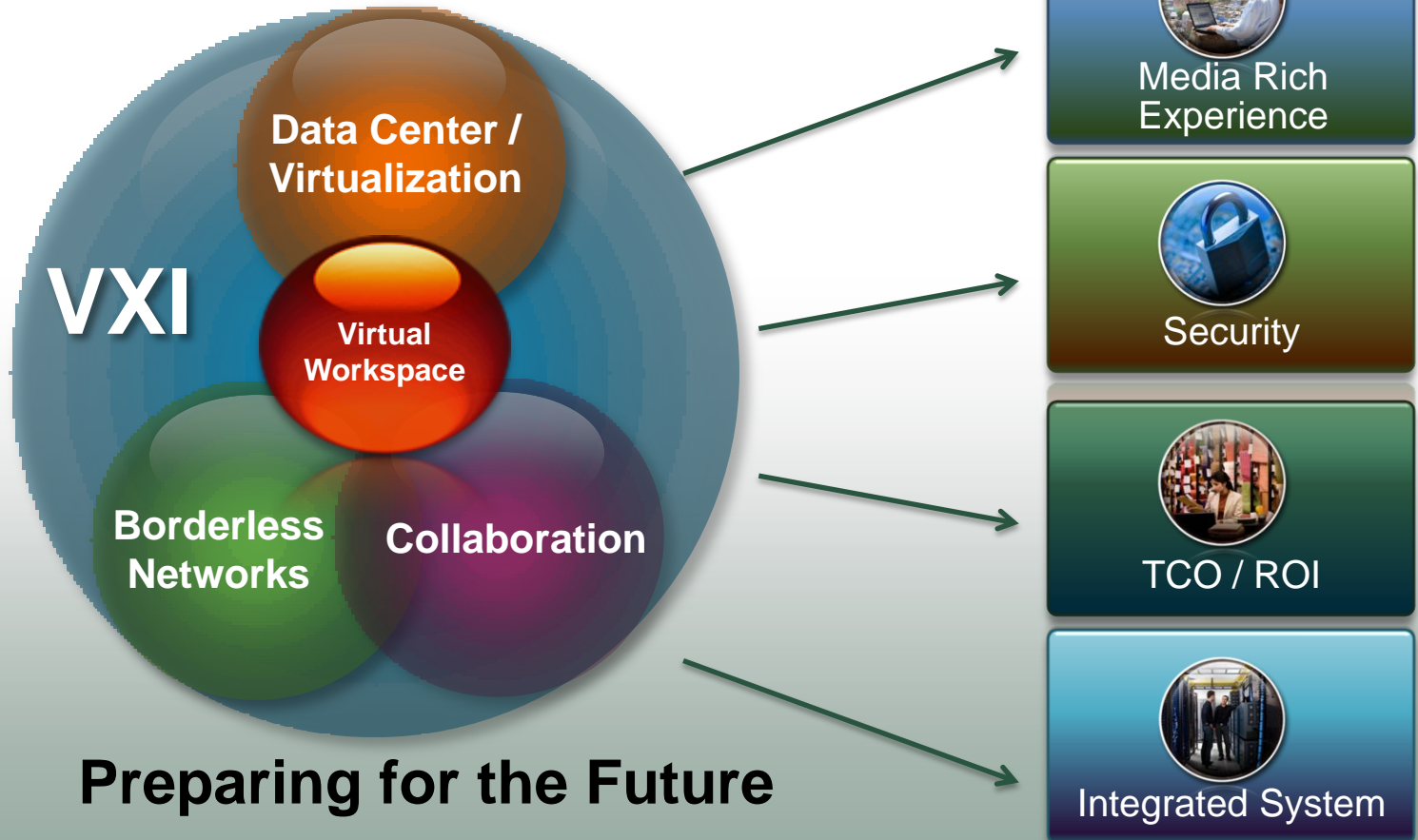
Reference Architecture Based Design for Implementation of Citrix XenDesktop Using Cisco Unified Computing System, Microsoft Hyper-V, and NetApp Storage

Last Updated: February 8, 2011

www.cisco.com/go/citrix

Cisco's Virtualization Experience Infrastructure (VXI) Vision

“Deliver a superior collaboration and rich media user experience with best in class ROI in a fully integrated, open and validated desktop virtualization solution”



Challenge: Bringing Together Desktop Virtualization & Collaboration

- Data security and compliance
- Business continuity / agility
- Reduced TCO
- Standardized IT experience, customizable user experience
- Video and voice
- Interactivity
- Mobility
- Real time, high quality experience
- Range of devices



IT Standardization



Rich Media Experience

Cisco Virtual Experience Client (VXC)



- Power over Ethernet (PoE)
- Supports 2 monitors
- Key board and Mouse
- Audio Mic and Speaker
- 4 USB ports

Cisco Cius Media Station

- Converged endpoint for voice, video, data applications and VDI
- Supports Citrix XenDesktop
- Offers AnyConnect client support
- Similar provisioning to IP Phone
- Wireless and 3G support



- Microphone Array
- HD audio hands free speaker
- USB 2.0 ports (three)
- DisplayPort™ 1080p video out
- Handset
- PoE Class 3 Device
- Wall Power Optional
- Charges Docked Cius
- 10/100/1000 Ethernet Switch

Docked VXi Experience

Supports external BT/USB mouse, keyboard, & display

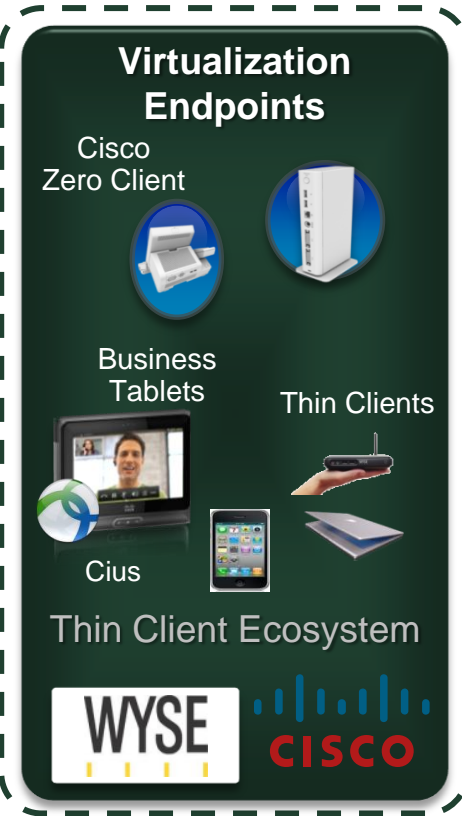
1024 x 600

Dedicated chip to improve external display quality

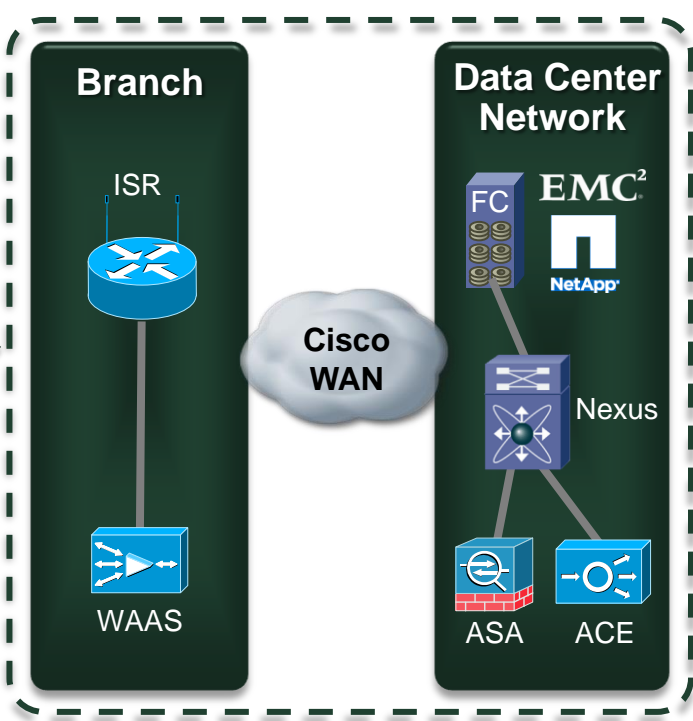


Cisco & Citrix Virtualized End-to-End System

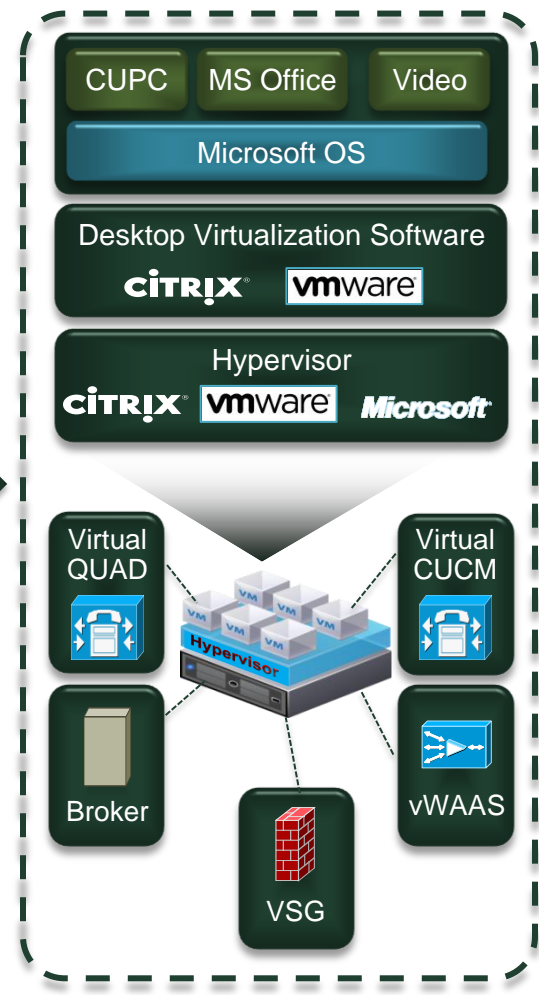
Virtualized Collaboration Workspace



Virtualization Aware Network



Virtualized Data Center



End-to-End Security, Management and Automation





Summary



Changing the Game in Desktop Virtualization



Two market leaders joining forces

Fully validated and tested joint solution

End to End solution

Reducing risk and TCO

Makes enterprise-wide adoption far easier

Thank You



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