Cisco VXI

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Desktop Virtualization: Nomenclature

Desktop Virtualization
Suite of Technologies
- Desktop Streaming
- Application Virtualization
- Terminal Services

VDI
Virtual Desktop Infrastructure

Industry Terms for VDI:
- Gartner: "Hosted Virtual Desktop" (HVD)
- IDC: "Centralized Virtual Desktop"

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- End-to-End Architecture & Validation
- Supporting Rich Media /UC
- Enhanced Security
- Application Acceleration
- POE / Energy Wise

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Cisco VXI

HVD/VDI Market Transition Is Accelerating

A broad deployment enabled by the next generation virtual workspace

Global hosted virtual desktop (HVD) market will accelerate through 2014

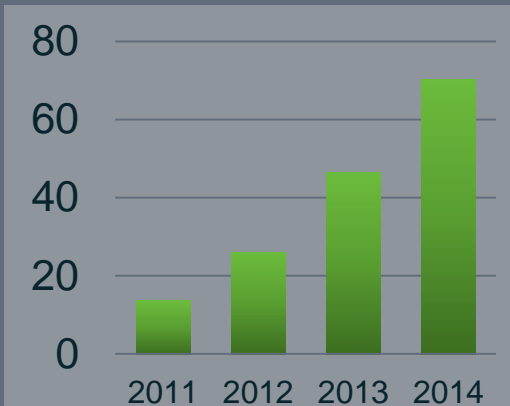- 70 million units or 15% of Enterprise desktops/laptops*

In 2011 47% of Enterprises initiated Desktop Virtualization projects

- Only 3% desktop penetration*

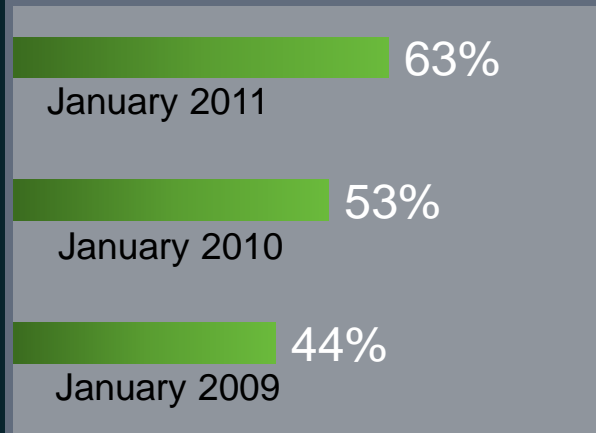7 Billion new wireless devices by 2015

* Gartner Group

HVD Forecast in Millions

Year	Value
2011	~13
2012	~26
2013	~46
2014	~71

(Y-axis: 0, 20, 40, 60, 80)

Percent of Respondents w/ VDI Projects Planned

- January 2011: 63%
- January 2010: 53%
- January 2009: 44%

Which are important IT initiatives for your organization for the next 12–24 months?

- Automating IT—Server Virtualization: 23%
- Private Cloud: 24%
- Data Center Migration: 25%
- Data Center Consolidation: 31%
- Desktop Virtualization: 36%

Source: Gartner HVD Forecast 2010-2014, December 2010

Source: Morgan Stanley CIO Survey, Jan 2010 & 2011
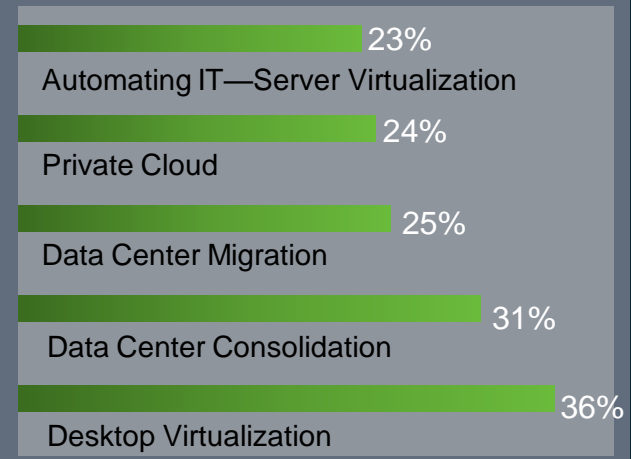
Source: Enterprise Strategy Group, Dec., 2010

May 20, 2010

What We've Heard From Customers…

Desktop Virtualization Drivers

Flexibility / Business Continuity

Data Security

Total Cost of Ownership

Desktop Virtualization Challenges

Maintaining High Quality for Video, Voice Experience

Fragmented Solution Set

Return on Investment

Users Require a High Quality Experience
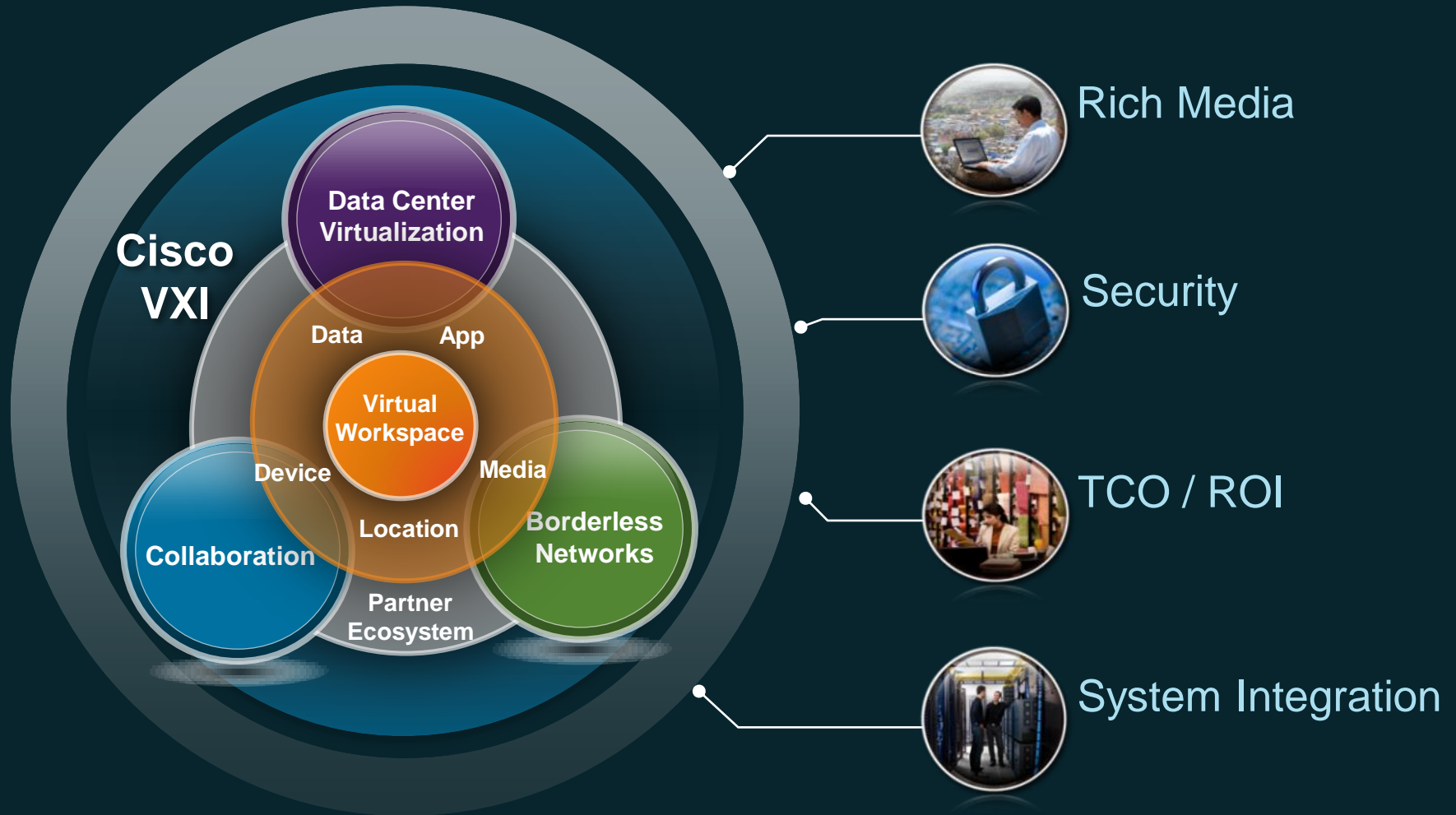## Any App, Any Data, Any Device, Any Media - Anywhere

PC Centric

Next Generation Virtual Workspace

Phone Centric

Video Centric

Cisco VXI
New Virtual Workspace that Unifies Voice, Video, Virtual Desktops

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Data Center Virtualization

Data

App

Virtual Workspace

Device

Media

Location

Collaboration

Borderless Networks

Partner Ecosystem

Rich Media

Security

TCO / ROI

System Integration

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Virtualized End-to-End Solution

Virtualized Data Center

Virtualization-Aware Borderless Network

Virtualized Collaborative Workspace

Applications/Desktop OS
- Cisco Collaboration Applications
- MS Office

Desktop Virtualization Software
CITRIX vmware

Hypervisor
CITRIX vmware Microsoft

- WAAS
- Quad
- AnyConnect
- Nexus 1000v
- UCS
- ASA
- Virtual Security Gateway
- Unified CM
- ACE
- Hypervisor
- Compute

Storage
EMC² NetApp

Cisco® Identity Services Engine

WAAS

PoE Routing

Switching

Cisco Virtualization Experience Clients
- AnyConnect
- Cisco VXC 6215 Thin Client
- Cisco VXC 4000 PC Client
- Cisco VXC 22xx & 21xx Zero Client
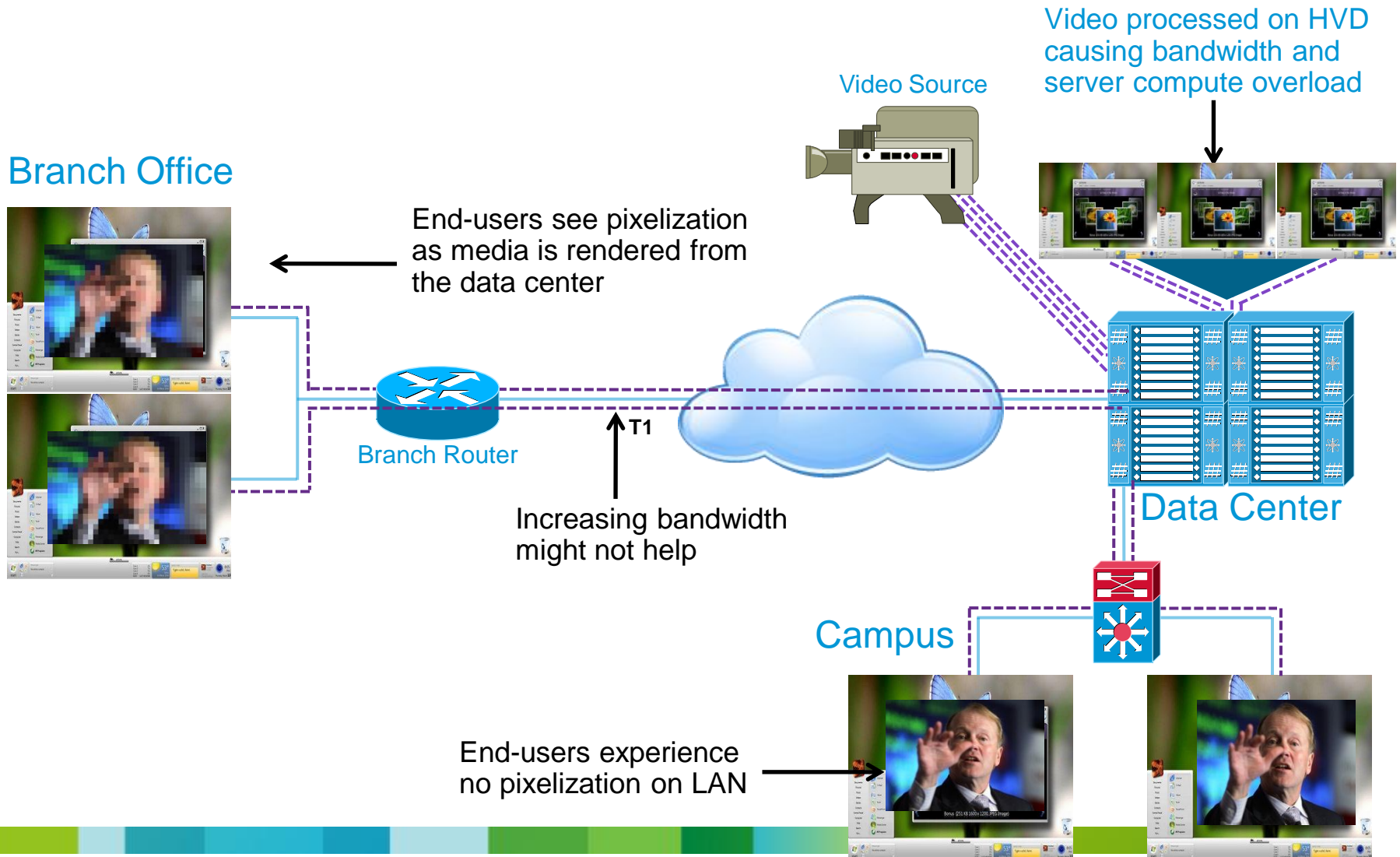- Cius Business Tablet

WYSE

End-to-End Management and Optimization
AppSense® atlantis COMPUTING Liquidware Labs *Dedicated to the ART & Science of Virtualization™* unidesk *VDI, Uncompromised.*

WAN's effects on Users Experience

Branch Office

End-users see pixelization as media is rendered from the data center

Branch Router

T1

Increasing bandwidth might not help

Video Source

Video processed on HVD causing bandwidth and server compute overload

Data Center

Campus

End-users experience no pixelization on LAN

Voice, Video, Virtual Desktop Challenge

Data Center

Virtual Desktop

Display Protocol
Media Flow

Thin Client

Signalling

Media manager

Signalling

WAN

Media Flow
Display Protocol

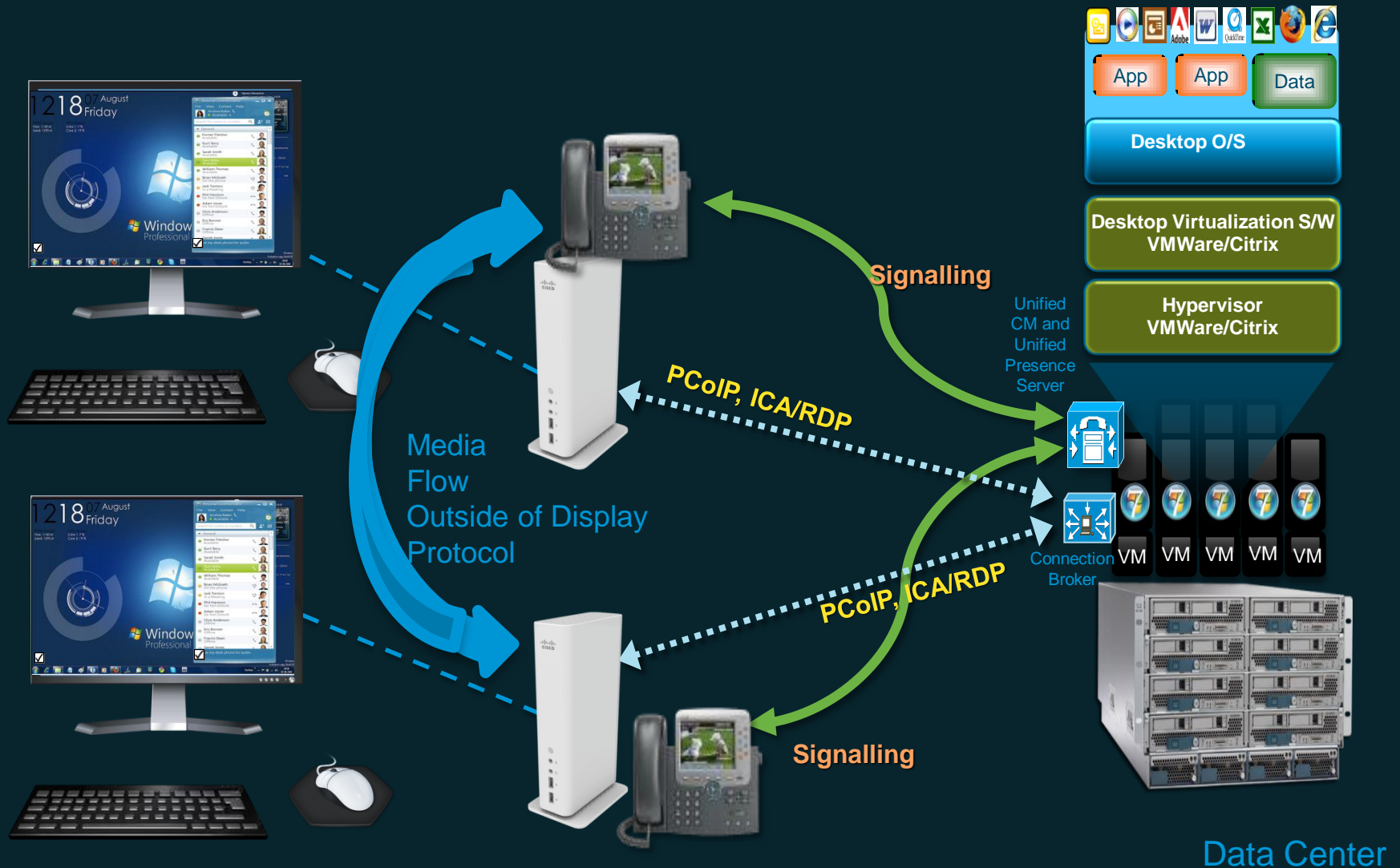**Thin Client**

Virtual Desktop
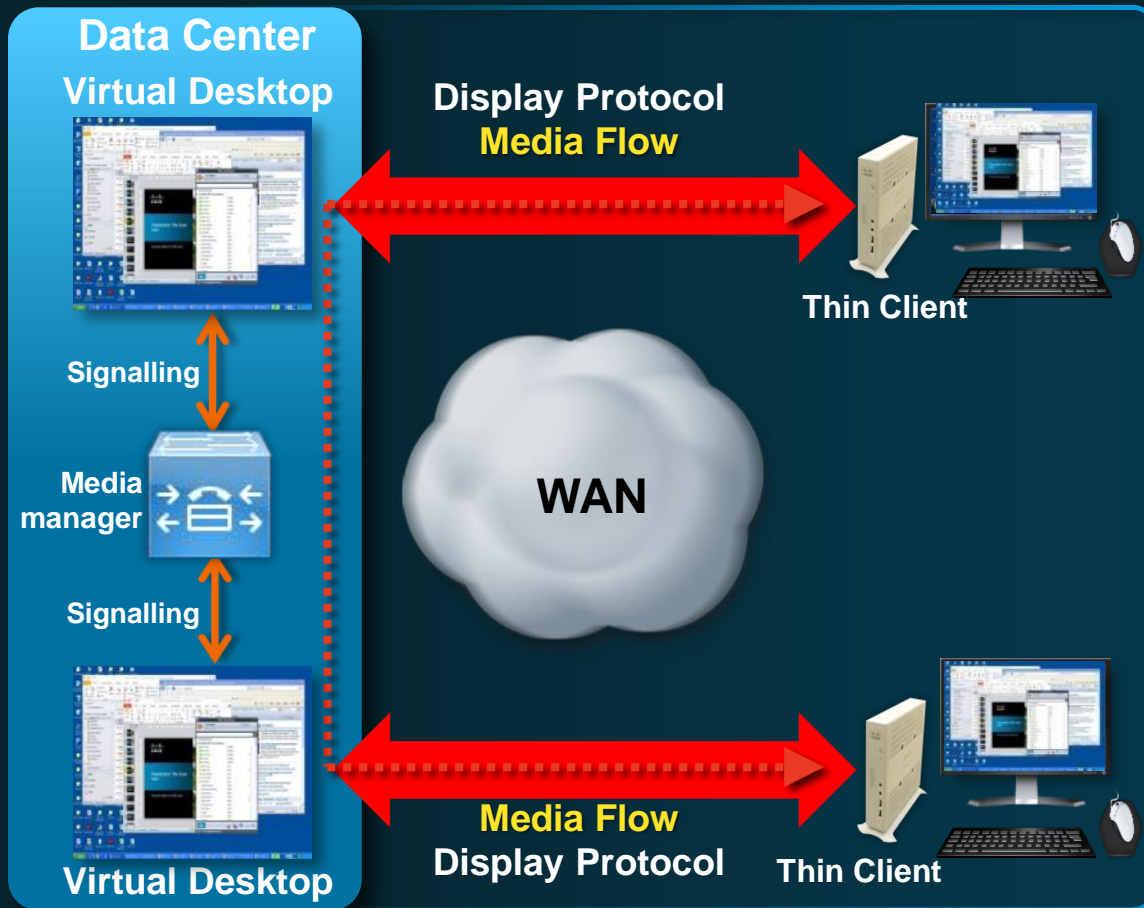
- Unusable experience

  Hairpin effect

- Increased cost and resource utilization

- Bandwidth explosion

- Heavy virtual machine processing in data center
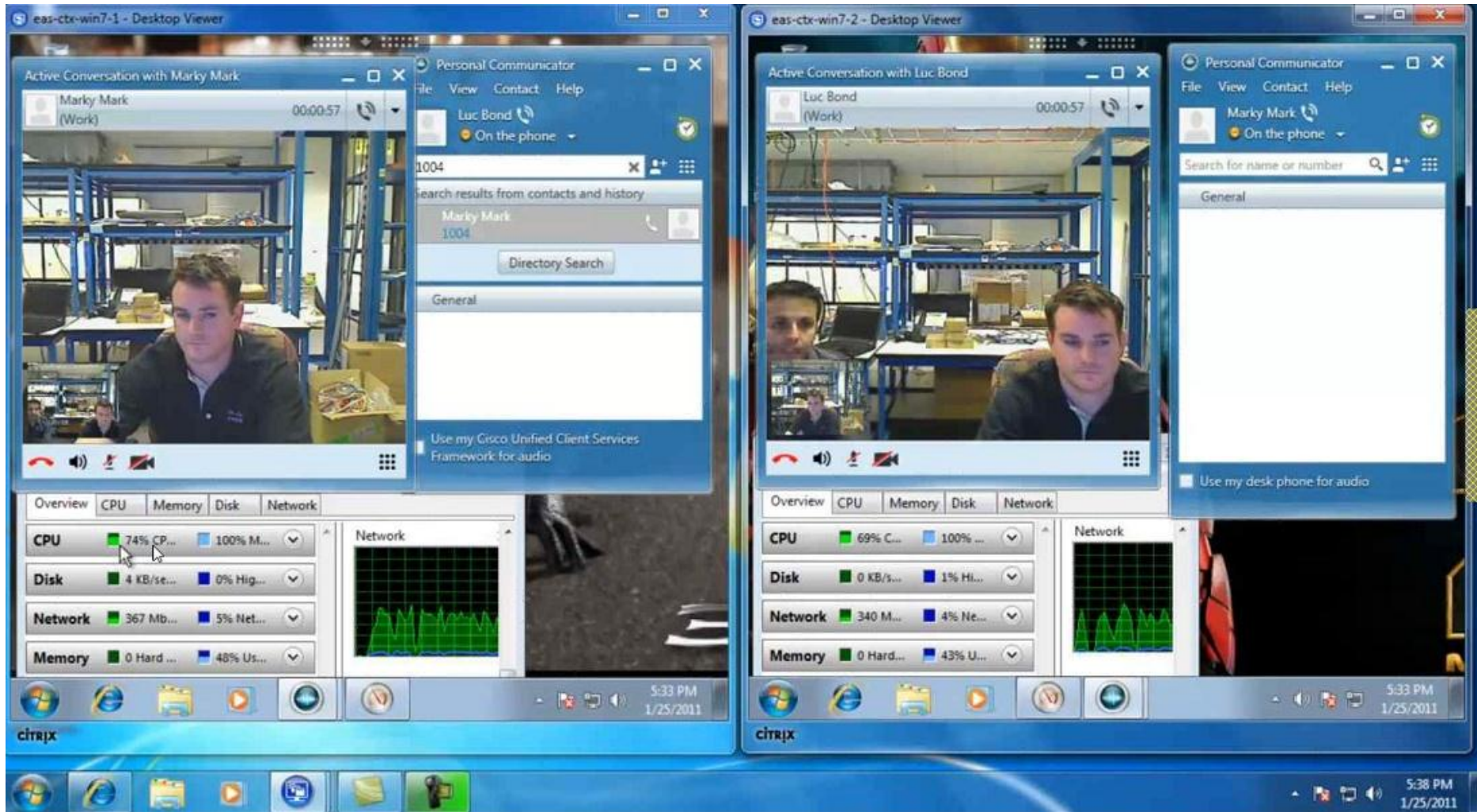
Rich Media User Experience restored VXI

App   App   Data

Desktop O/S

Desktop Virtualization S/W VMWare/Citrix

Hypervisor VMWare/Citrix

Unified CM and Unified Presence Server

Signalling

PCoIP, ICA/RDP

Media
Flow
Outside of Display
Protocol

PCoIP, ICA/RDP

Signalling

Connection Broker

VM VM VM VM VM

Data Center

Cisco Virtualization Experience Client (VXC) Portfolio

Zero Clients	Zero Clients	Software Appliance	Thin Client	Enterprise Tablet
VXC 2100 Series	VXC 2200 Series	VXC 4000	VXC 6215	Cisco Cius

VXC Feature Comparison

	VXC 2100 Series	VXC 2200 Series	VXC 4000*	VXC 6215*	Cisco Cius
Form Factor	"Backpack" Integrated	"Tower" Standalone	PC Software	"Tower" Standalone	Enterprise Tablet
Availability	Shipping	Shipping	Q4 CY 2011	Q1 CY 2012	Shipping
Platform	Zero Client	Zero Client	Win7, XP	Linux	Android (x86)
HVD Protocol Support	2111 – PCoIP 2112 – HDX,RDP	2211 – PCoIP 2212 – HDX,RDP	Citrix XenDekstop, VMware View	HDX, RDP, PCoIP	Citrix XenDekstop, VMware View
UC Protocol Support (add on)	N/A	N/A	Software Appliance	HDX, RDP (Q4CY11) PCoIP (Q1CY12)	N/A
UC Client Support*	CUPC, Connect	CUPC, Connect	CUPC, CUCILync	CUPC, CUCILync	Native
Voice	IP Phone 8961, 9951, 9971	N/A, can be used with IP Phone	Yes	Yes	Yes
Video	IP Phone 9971, 9951	N/A, can be used with IP Video Phone	No	Yes	Yes
Monitor Support	Single or Dual, 1920x1200	Single or Dual, 1920x1200	Varies based on underlying HW	Single:2560x1600 Dual:1920x1200	Single Mirror, 1024x600 (on the roadmap for dual monitor support)
PoE	PoE	PoE	N/A	No	PoE
Encoding & Decoding	Via IP Phone	Via IP Phone	Audio only. Video on the roadmap.	Standard Video HD Capable*	HD Capable (720p)

Cisco VXC Differentiators

- VXC 21xx series innovative form factor integrates w/ IP phone that reduces real estate and simplifies management

- Power over Ethernet (POE) with support for EnergyWise delivering energy savings and compliance to green initiatives

- Thin Client endpoint that unifies voice, video and virtual desktop

- Software appliance option that leverages existing PC investments

- Mobile endpoint w/ voice, video and virtual desktop in a unique centrally managed enterprise tablet

- Cisco Validated Designs (CVD) that provide blueprints for successful deployments and lower TCO

- Cisco Technical Assistance Center (TAC) Allied Solution Support for end to end solution

VXI Phase 2.5 Component Summary
Based on Cisco Architectures

VXI Validation Service
VXI AS

VXI Endpoints portfolio
- Cisco VXC 21xx and 22xx
- Cisco Cius
- Cisco VXC 4000
- Cisco VXC 6215
- Cisco VXCM

UC Applications
CUPC 8.5,
CUCM 8.6,
CUCILYNC, CUCIMOC
Webex Connect 7.1
CUCI-Connect 8.5
Quad

Cisco Network
WAAS 4.5.1,
vWAAS,
Cat 3K, Cat 4K, Cat 6K
UPoE
ISR G2

Network Security
ISE 1.0   Anyconnect 3.0
SmartCards   VXC VPN
DMVPN   ASA

Data Center Compute
UCS B250 M2,
UCS B210 M2
UCS B230 M2,
UCS C250, C210

Data Center Network
Nexus 7000,
Nexus 5000,
Nexus 2000,
Nexus 1000v
VSG,
ACE

Hypervisor
Citrix XenServer 5.6, 6.0
VMware vSphere 5.0
Microsoft Hyper-V R2 FP1

Storage
EMC VNX
NetApp FAS 3270

Optimization
Atlantis Ilio
Citrix IntelliCache
Mcafee MOVE-AV 2.0
Trend Micro AV 7.5

Desktop Virtualization
Citrix XenDesktop 4, 5, 5.5
Vmware View 4.6 and 5.0
XenApp 6 and 6.5

Profile/Image Mgmt
AppSense
UniDesk
StratusSphere (LiquidWare)

Collaboration

Borderless Networks

Data Center Virtualization

VXI Technology Parnters

Ďakujeme za pozornosť