Cisco´s BYOD Value

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El Objetivo de esta presentación es mostrar, desde el <u>punto de vista técnico</u>, la oferta de CISCO para <u>integrar BYOD </u>a nuestra infraestructura.

We all know about the new workplace trends

OLD SCHOOL

- Enterprise provided mobile devices

- Work is a *place you go to*—limited off campus access

- IT visibility and control into user devices and applications

NEW SCHOOL

- Anywhere, anytime, any device usage

- Work is a *function*— globally dispersed, mixed device ownership

- Change in IT control and management paradigm — granularity beyond device

Market Transitions

5 Billion Mobile Users by 2016

Mobile Devices

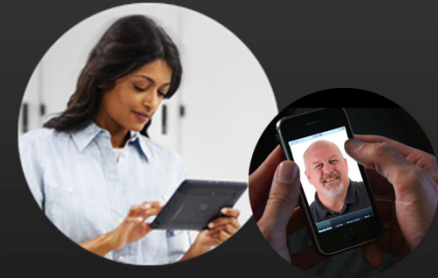IT Resources

MOBILITY

Blurring the Borders

Consumer ↔ Workforce
Employee ↔ Partner
Physical ↔ Virtual

Anyone, Anywhere, Anytime
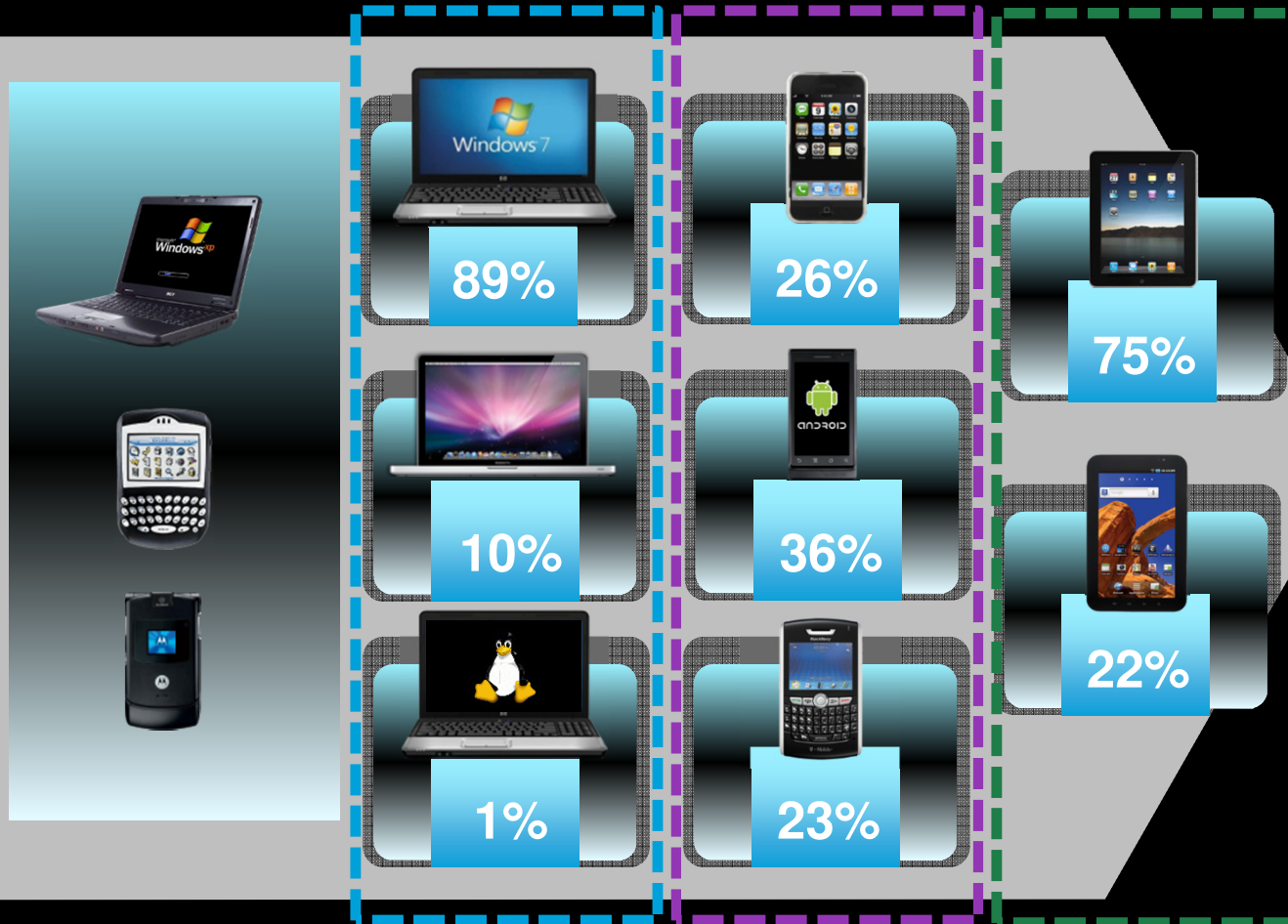

WORKPLACE EXPERIENCE

Changing the Way We Work

71% of the World's Mobile Data Traffic will be Video in 2016

VIDEO

Driving an Ongoing Shift to BYOD

Device Diversity is here to stay

89%

10%

1%

26%

36%

23%

75%

22%

User Wants

- Consistent experience on multiple devices
- Seamless transitions between devices
- Separation of work and personal data
- Keep up with tech and social trends

IT Wants

- Proactive adoption of consumer/mobile devices
- Embrace BYOD without sacrificing security, management, business standards
- Lower organizational costs
- Improved agility

Demand for Mobile Access

15 billion
New networked mobile devices by **2015**

56%
of US Information Workers

spend time working OUTSIDE THE OFFICE

3/4
of employees uses **MULTIPLE DEVICES** for work

100%
of IT staff

STRUGGLE to keep up with mobile needs

Who is addressing the BYOD Needs

NETWORK

The Building Blocks of Cisco BYOD Solution

The 4 Pillars of a Complete BYOD Solution

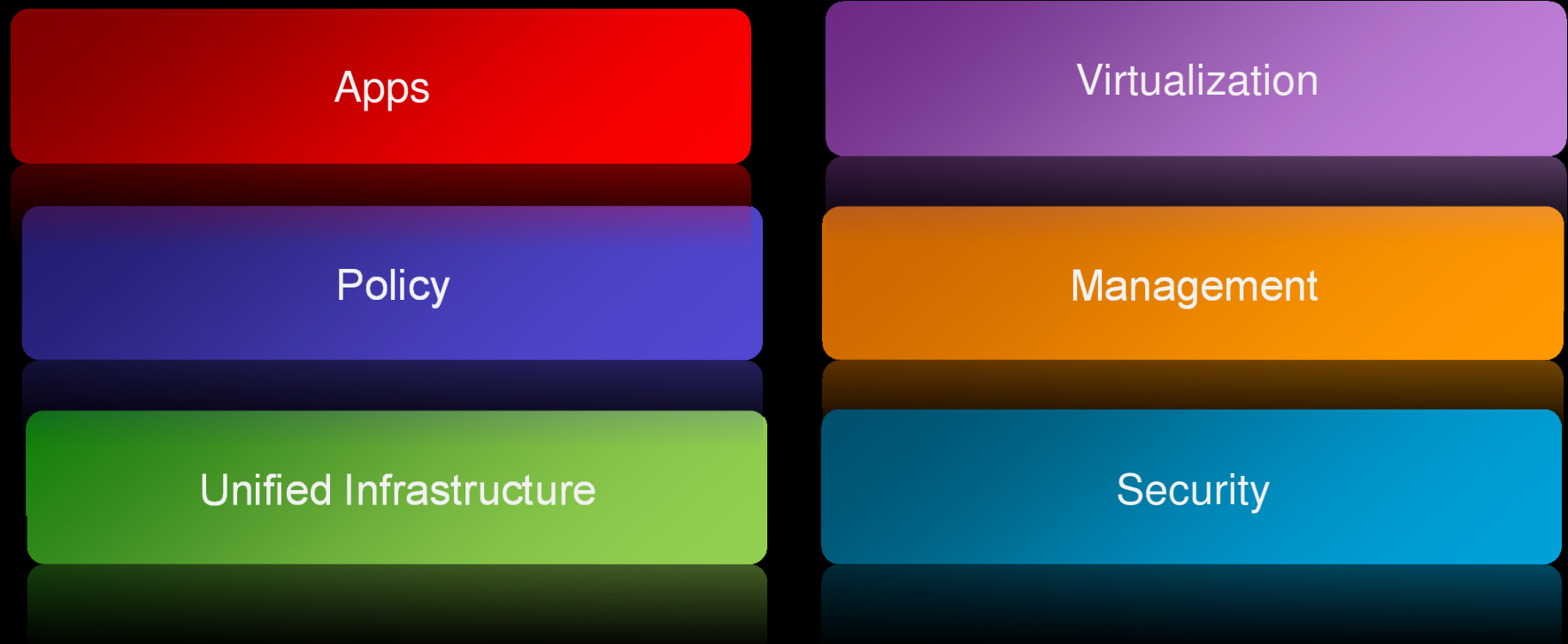| Pervasive Access	Mobile Ready Network	Policy Management	Device Protection & Management
High Performance Wireless	Optimize Critical Applications In Addition To Voice,Video, & VDI/VXI	Consistent Policy Based Network Access Across All Forms Of Access	Mitigating threats to Mobile Devices

Central Management
(Cisco NCS Prime)

Cisco BYOD Building Blocks

Apps

Virtualization

Policy

Management

Unified Infrastructure

Security

BYOD Use Cases

Use Case	Limit	Basic	Enhanced	Advanced
Business Policy	Block Access	Role Based Access; (Guest Access)	Secure granular On-site and Off-Site Mobility	Full Workspace Experience
IT Requirements	• **Visibility to who/what is on network** • **Restrict access to only corporate issued devices.**	• **Restrict personal devices to public internet.** • **Restricted access to internal sites**	• **Allow granular on-site and off-site access to network/applications**	• **Enable a full mobile and collaboration experience**
User Scenario (Example)	Hospital extends wired access to medical staff only	Hospital provides guest access to patients	Doctor uses personal device in hospital and in an offsite coffee-shop	Hospital administrator is granted full network access and uses native applications (i.e. HR applicant tracking system)

Solution Technology

Core network	Cisco Switches Cisco Routers Cisco Wireless LAN Infrastructure
Management	CiscoPrime Infrastructure (Cisco Prime NCS) — 3rd Party MDM
Identity	Cisco Identity Services Engine
Security and Remote Access	Cisco Firewalls Cisco ESA/WSA Cisco AnyConnect ScanSafe
Virtualization	Application Virtualization Cisco VXI , UCS, Nexus — Desktop Virtualization Cisco VXI , UCS, Nexus
Applications	Enterprise Apps Collaboration Apps

BYOD Use Cases #1: Limit

Policy is to restrict access to only corporate issued devices.

CISCO BYOD DIFFERENTIATORS

Mobility

- High-performance 802.11n WLAN solution

- Enables collaboration and business-transformative applications

Industry-best Security

- Unique access controls (monitor mode, FlexAuth and Security Group Access)

- Enforce compliance, enhance infrastructure security, and streamline their service operations

Universal Visibility & Control

- Comprehensive visibility into wired, wireless, and policy metrics in a single, unified view

- Provides faster troubleshooting and more efficient network operations.

Wireless   Wired

ISE

NCS Prime

Devices Layer

Smartphones   Tablets   Game, Printer   Thin/VirtualClients   Desktop/Notebooks

BYOD Use Case #2: Basic

Business policy is to enable wired, wireless, and guest access

CISCO BYOD DIFFERENTIATORS

Unified Policy-based Management

- Identity-aware networking, and data integrity

- Universally and effectively control user and device access

Uncompromised Security

- Secure, scalable guest access solutions

- Authenticate users and endpoints via wired, wireless with consistent policy across the enterprise network

Simplified On-Boarding

- Zero touch device registration and provisioning of employee/guest devices

Wireless   Wired   ISE   NCS Prime

Devices Layer

Smartphones   Tablets   Game, Printer   Thin/VirtualClients   Desktop/Notebooks

Cisco Switching Differentiators for BYOD
Cisco switches scale to meet diverse deployment scenarios

Next Generation Workspace

Any Device   **HD Video**   **VDI**

Catalyst 3K-X   **Catalyst 4K**

| Security | Video | PoE Leadership | HA |

Smart Operations

Lower TCO

ENABLING THE BYOD EXPERIENCE

Cisco Switching Differentiators

- **Discover and profile end devices with IOS Sensor**

- **Identity-based access control with no impact using Monitor Mode**

- **Link layer encryption with policy enforcement via MACsec**

- **Network visibility to security vulnerabilities with Flexible NetFlow**

- **Attack forensics with Smart Logging and Telemetry**

- **Improve network visibility and mitigate attacks with Flexible Netflow**

Cisco Routing Differentiators for BYOD
Cisco Integrated and Aggregation Services Routers

Core Network	Management	Identity	Security and Remote Access	Virtualization	Apps

Cisco ISR 800
Cisco ISR G2 1900
Cisco ISR G2 2900
Cisco ISR G2 3900
Cisco ASR 1000

Prime Infrastructure – Central Network Management

Best-in-class Experience for Mobile Users

Comprehensive Security – Firewall, IPS, Scansafe Connector, Secure Access (Etherswitch modules, WLC on SRE, Integrated APs)

End-to-end Visibility into Application Performance – NBAR2, PA, FNF, Cisco Prime Assurance

Optimized Application Delivery – HQoS, PfR, Medianet, WAAS

Continuous Access to Applications – UCSE Virtualization

Optimized Survivable Collaboration – SRST, PVDM3 (voice, video)

Universal Management for BYOD Deployments

CiscoPrime Infrastructure (Cisco Prime NCS) for Unified Network Management

Converged Access Management for Wired and Wireless Networks

Wireless | Wired | Security Policy | Network Services

Converged Security and Policy Monitoring

Contextual status and monitoring dashboards across wired and wireless networks

Centrally organizes Day 1-to-n management tasks

Instructional configuration workflows

Reduces the time to troubleshoot

Integration with Cisco NCS Prime

Improved Network Visibility • Faster Troubleshooting • Eliminate Configuration Errors

Context Awareness: Guest Management for BYOD

ISE Guest Service for managing guests

Guest Policy

Wireless or Wired Access

Internet-Only Access

Web Authentication

Guests

Internet

Provision:
Guest Accounts via Sponsor Portal

Manage:
Sponsor Privileges, Guest Accounts and Policies, Guest Portal

Notify:
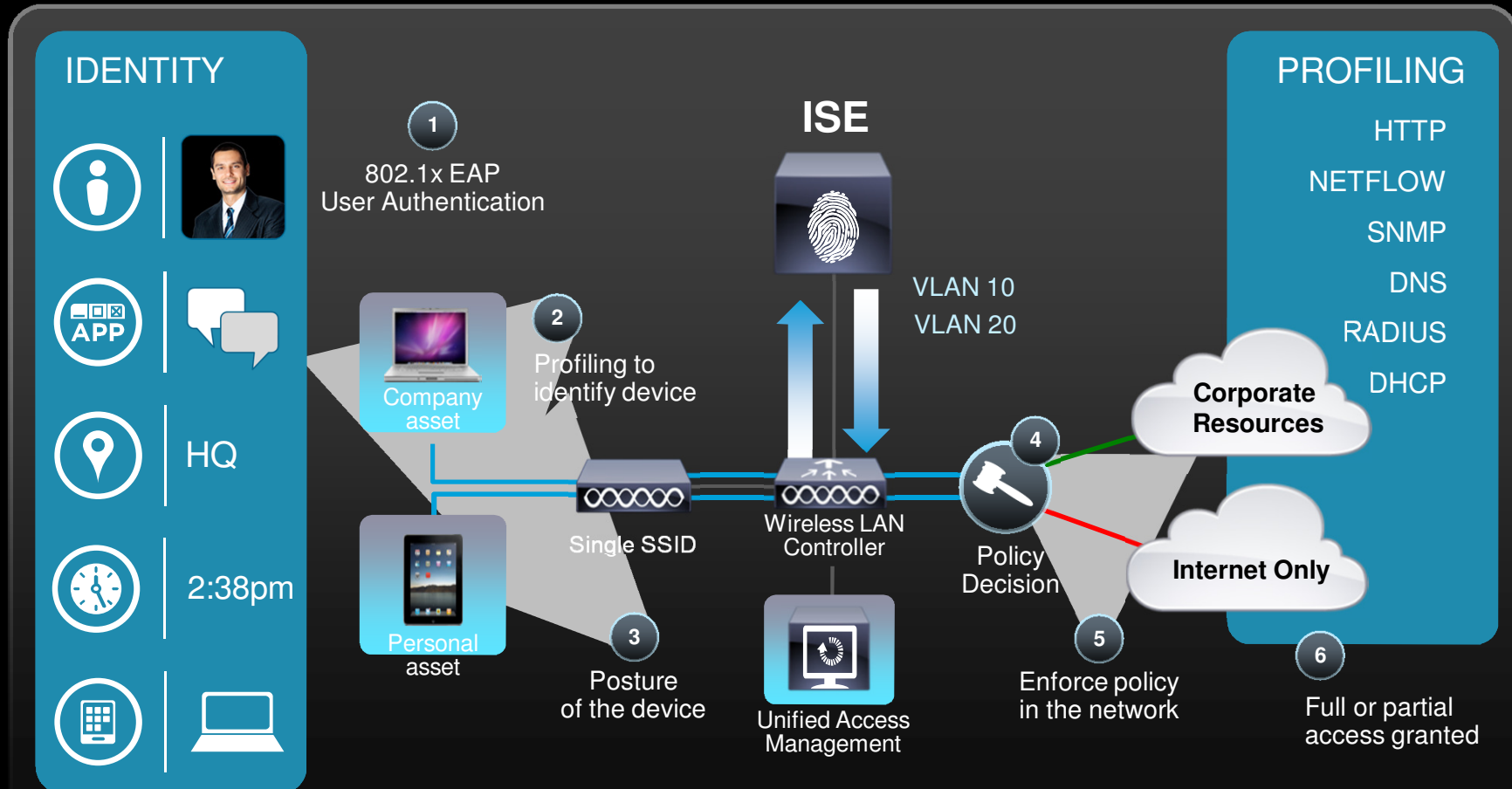Guests of Account Details by Print, Email, or SMS

Report:
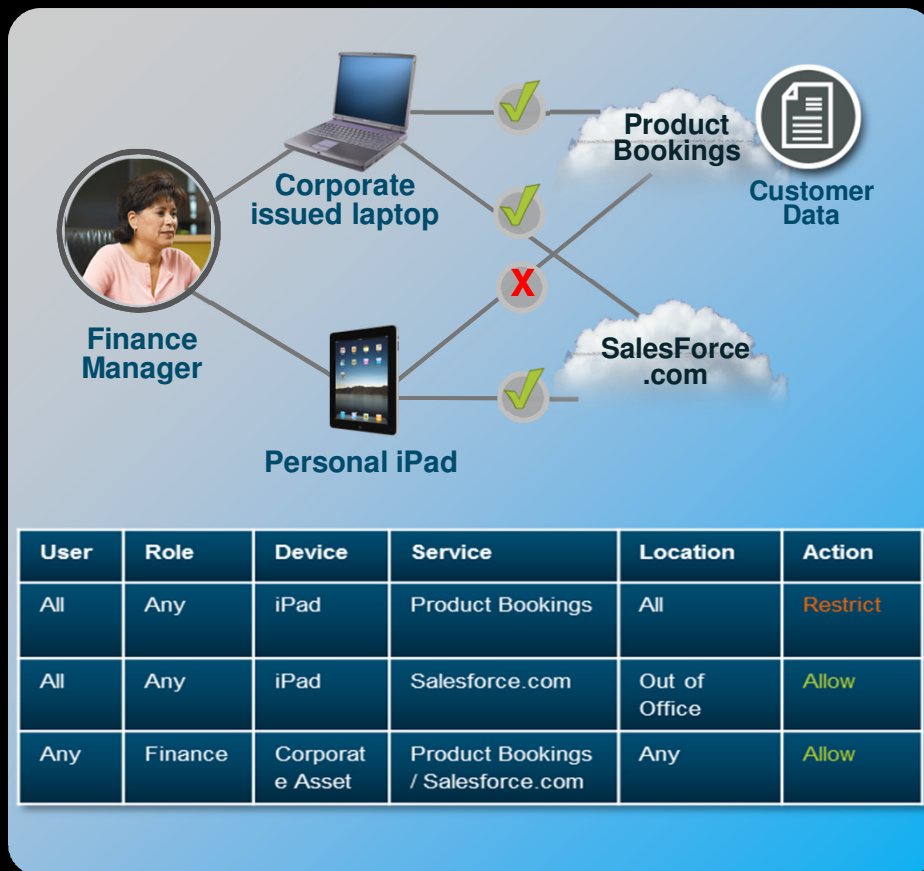On All Aspects of Guest Accounts

Policy-Based Access
Identity Services Engine Delivers "Business Policy"

| User	Role	Device	Service	Location	Action
All	Any	iPad	Product Bookings	All	Restrict
All	Any	iPad	Salesforce.com	Out of Office	Allow
Any	Finance	Corporate Asset	Product Bookings / Salesforce.com	Any	Allow

✓ Define network policy as an extension of business goals

✓ Policy extends to all access types (wired, wireless, VPN)

✓ Lifecycle Services Integration – guest, profiling, posture

✓ Optional encryption-based Policies for Security-conscious users

Simplified On-Boarding for BYOD
New Features for zero touch on-boarding

On-Boarding Differentiators (1.1 MR)

✓ ▪ Supplicant provisioning on all major platforms

✓ ▪ In-band and out-of-band asset registration portal

✓ ▪ Self-service, user based registration portal

✓ ▪ Flexible dot1x profiles—Common profile for all platforms or platform specific

✓ ▪ Provisioning of certs with additional attributes like UDID, MAC add etc

✓ ▪ Certificate based differentiation of service and anti-cert copying

✓ ▪ Black-listing and re-instating of devices

✓ ▪ Single SSID
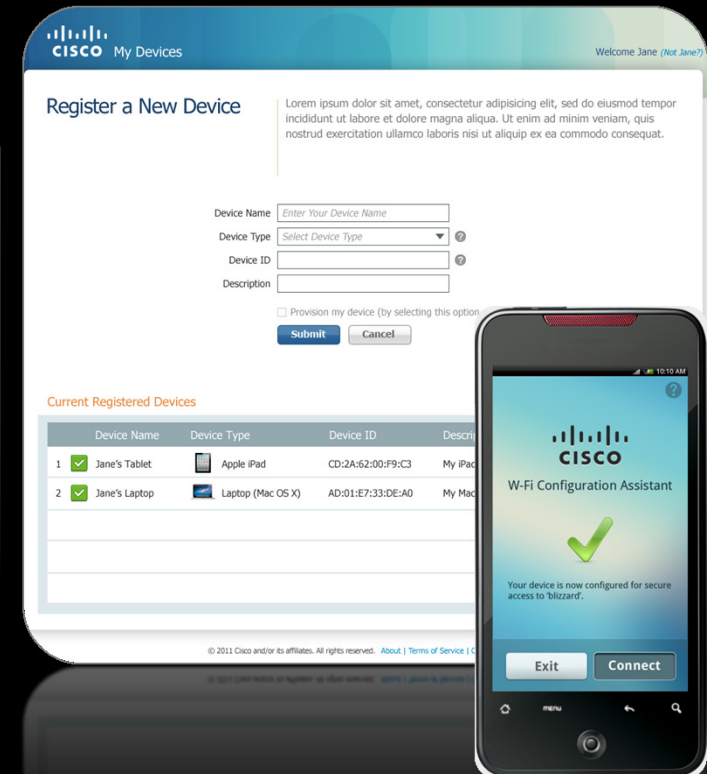
Reduced Burden on IT Staff

Device On-boarding, Self Registration, Supplicant Provisioning *

Reduced Burden on Help Desk Staff

Seamless, Intuitive End user experience

Self Service Model

My Device Registration Portal*, Guest Sponsorship Portal
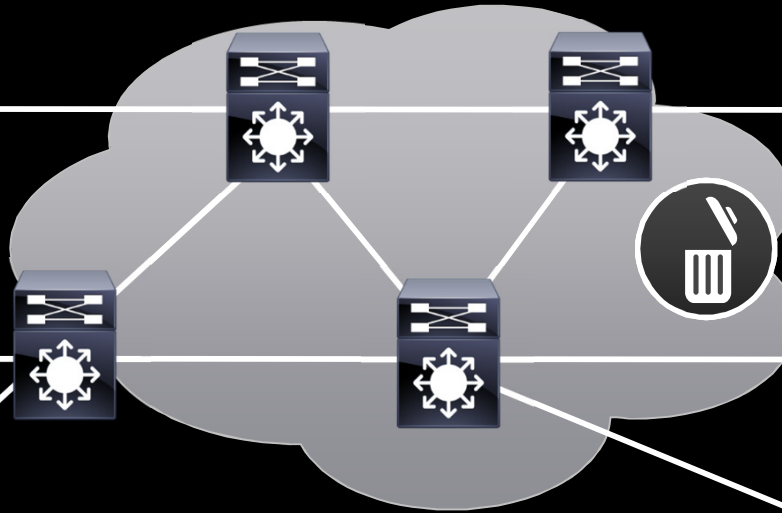
Virtualized Workspace Experience

Complementary Approaches to Workspace Delivery: Native & Virtual

Native

Directory Exchange IronPort Email IronPort Web

NCS Prime

MDM Mgr

Partner MDM

ScanSafe

CSM/AS DM

AC NAM

AC VPN with Cloud Web Security

Only Cisco offers flexible architectures for BYOD deployments with end-to end solutions for both native and virtual environments

BYOD: Use Case #3: **Enhanced (with VXI)**

Business policy is to provide granular access to specific applications both on and off site—utilizing application virtualization

CISCO BYOD DIFFERENTIATORS

Cisco Application Virtual Experience Infrastructure (VXI) Differentiators

- Provides an end-to-end systems approach
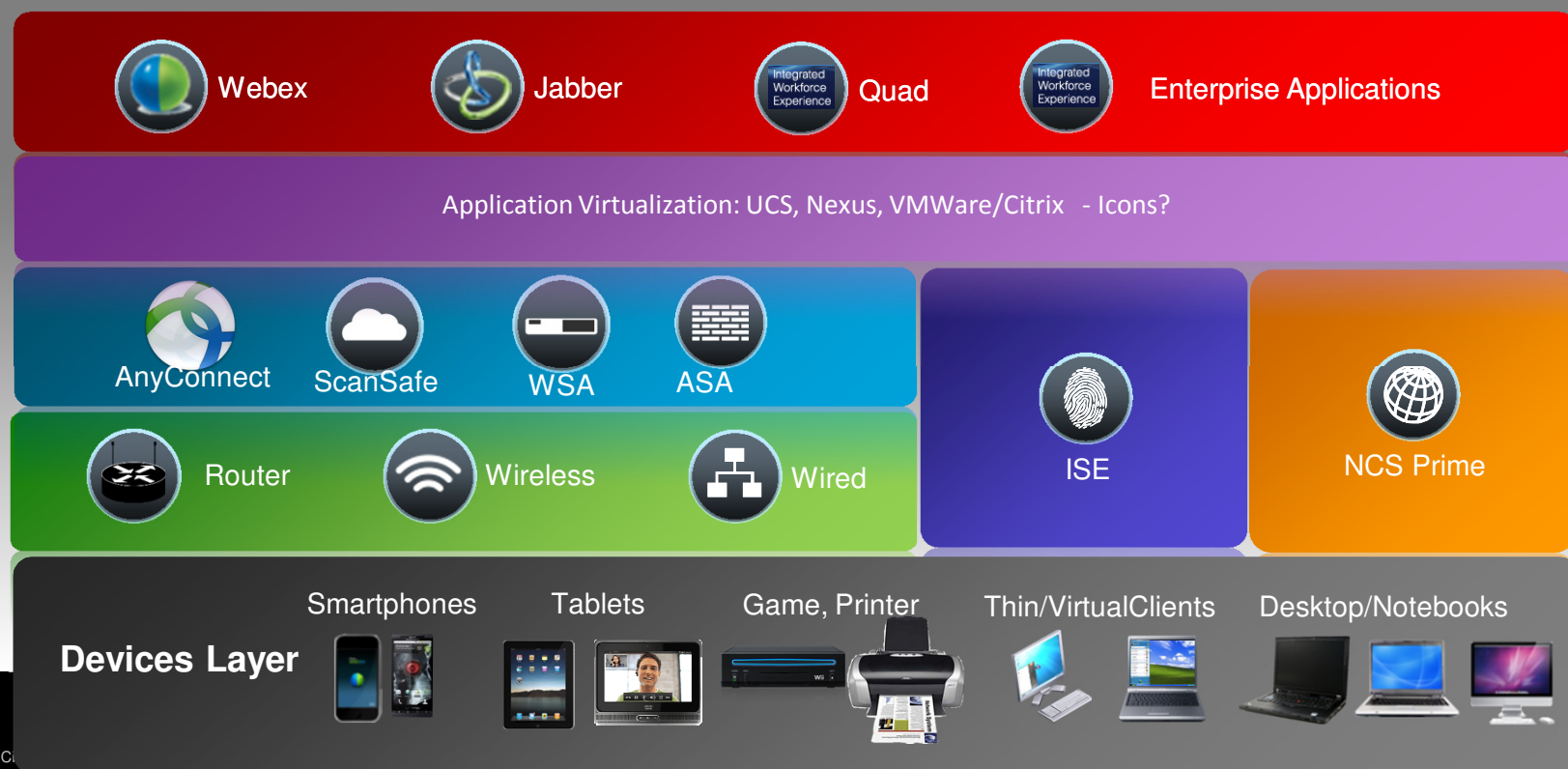- Delivers the next generation virtual workspace by unifying virtual desktops, voice, and video.

Webex   Jabber   Quad   Enterprise Applications

Application Virtualization: UCS, Nexus, VMWare/Citrix - Icons?

AnyConnect   ScanSafe   WSA   ASA   ISE   NCS Prime

Router   Wireless   Wired

Devices Layer   Smartphones   Tablets   Game, Printer   Thin/VirtualClients   Desktop/Notebooks
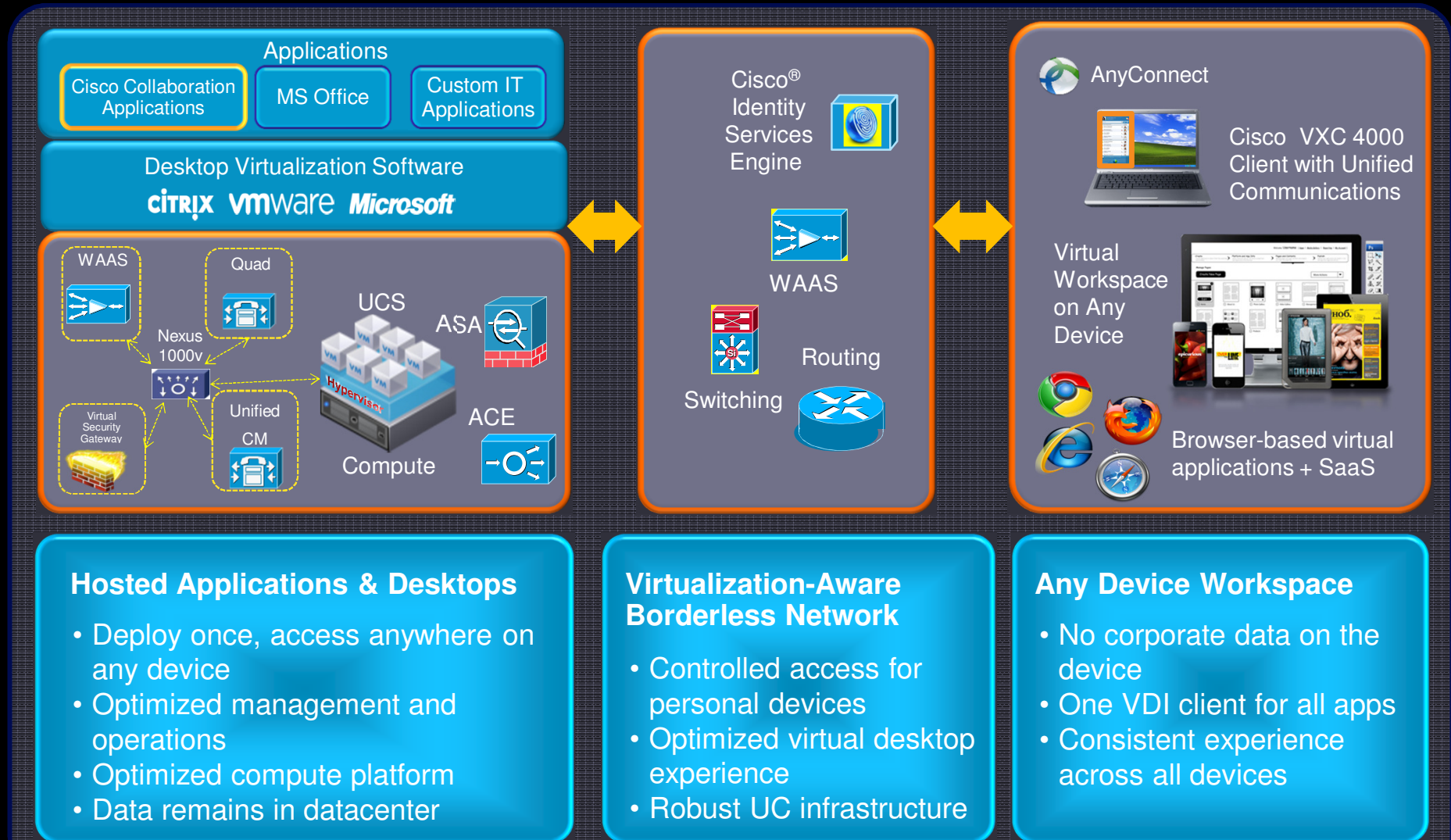
Cisco Enterprise Collaboration Applications

Cisco webex

Enhance Productivity, Improve Efficiency
• Meet anywhere, anytime, on any device worldwide
• Collaborate in real time to keep projects on track
• Build tighter relationships with face-to-face meetings using video
• Save time and money by reducing travel

Cisco Jabber

Collaborate more securely and effectively from anywhere
• Collaborate from any workspace
• Easily access presence, IM, voice and video, voice messages, desktop sharing, and conferencing
• Maintain consistent experience across devices

Cisco Quad

Transforming the way people work
• Create a customized view of the people, tools, information, and communities that matter most
• Embed videos, attach files, and easily control permissions without the guesswork of which tool to use
• Easily build virtual communities of interest or practice

BYOD Spectrum

Understand where your customer is at with BYOD

Limit | Basic | Enhanced | Advanced

Environment requires tight controls

⬇

Corp Only Device

Mfg Environment

Trading Floor

Classified Gov Networks

Traditional Enterprise

Focus on basic services, easy access, almost anybody

⬇

Broader Device Types But Internet Only

Edu Environments

Public Institutions

Simple Guest

Enable differentiated services, on-boarding with security – onsite/offsite

⬇

Multiple Device Types + Access Methods

Healthcare

Early BYOD Adopters

Contractor Enablement

Corp native apps, new services, full control

⬇

Multiple Device Types, Corp Issued

Innovative Enterprises

Retail on Demand

Mobile Sales Services (Video, Collaboration, etc.)

Cisco End-to-End BYOD Solution
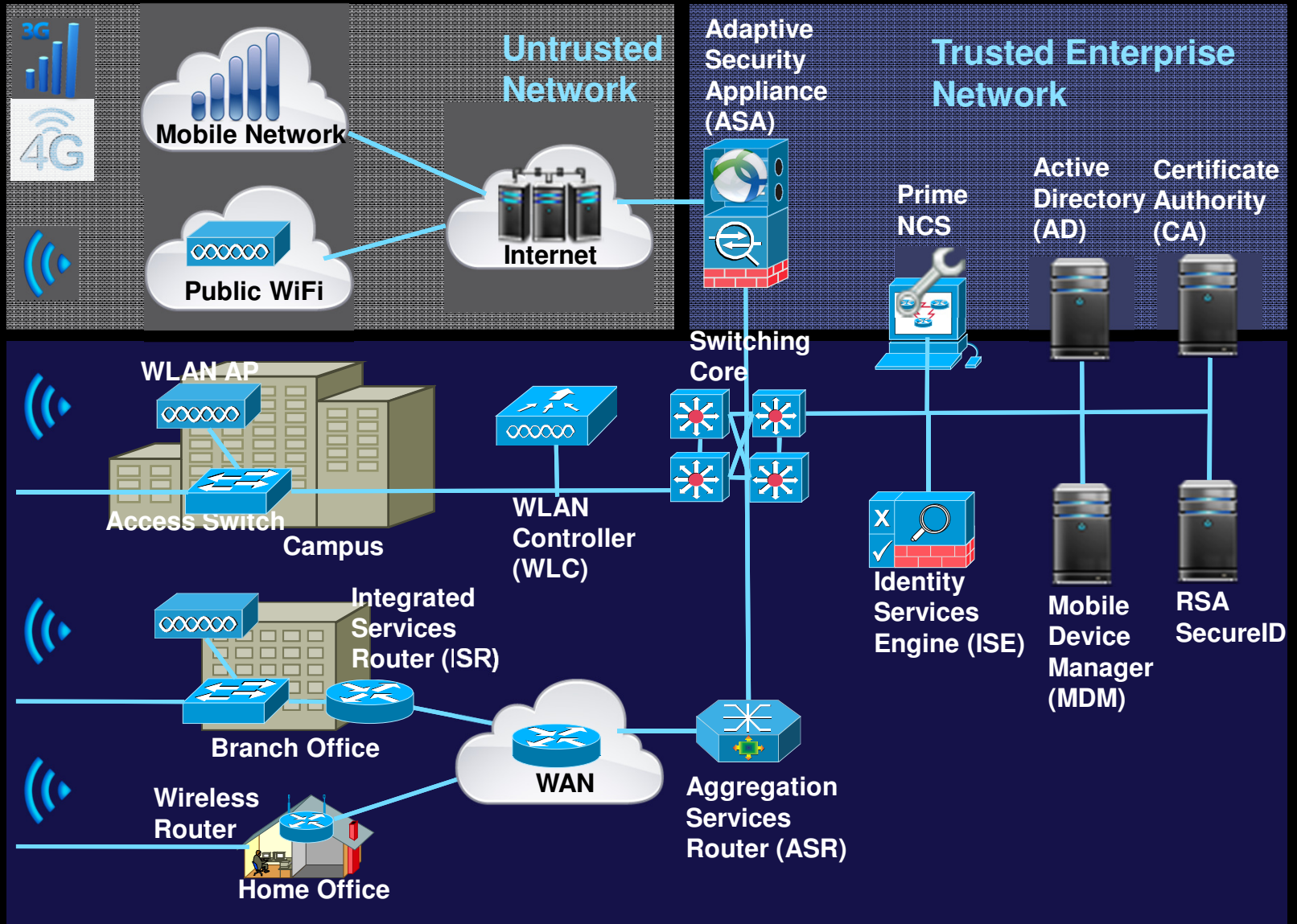
BYOD Devices

Wired, Wireless, Mobile Access

Access Infrastructure

Off-Premise Gateways

Security and Policy Infrastructure

Untrusted Network

Trusted Enterprise Network

3G

4G

Mobile Network

Public WiFi

Internet

Adaptive Security Appliance (ASA)

Prime NCS

Active Directory (AD)

Certificate Authority (CA)

WLAN AP

Access Switch

Campus

WLAN Controller (WLC)

Switching Core

Identity Services Engine (ISE)

Mobile Device Manager (MDM)

RSA SecureID

Integrated Services Router (ISR)

Branch Office

Wireless Router

WAN

Aggregation Services Router (ASR)

Home Office

AnyConnect

Summary

- BYOD impacts all areas of IT

- Workspace delivery to any device can be native or virtual

- BYOD implementation must address the entire "spectrum" of use cases in an organization

- With Cisco, organizations can embrace BYOD with superior experience and control - *Today*

Thank you.