Cisco Virtual Update: Expressway at the Collaboration Edge

24. september 2013

Speaker: Michael Ahrensburg, Systems Engineer

Q&A master: Per Toft, Consulting System Engineer

© 2010 Cisco and/or its affiliates. All rights reserved.

Required GAAP Reconciliation and Forward-Looking Statements

This document contains confidential material, and is shared under a valid non-disclosure agreement. Many of the products and features described herein remain in varying stages of development, and will be offered on a when-and-if-available basis. This roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this document.

© 2010 Cisco and/or its affiliates. All rights reserved.

What is Collaboration Edge?

Voice, Video, Messaging, Conferencing, & Social

Remote and Mobile Access

Multimodal collaboration without a VPN

Desktop, Mobile and Fixed endpoints

Business to Business

Secure communications with anyone

Enterprise Border

Consumer Services

An integrated / collaborative experience for customers

Consumer to Business

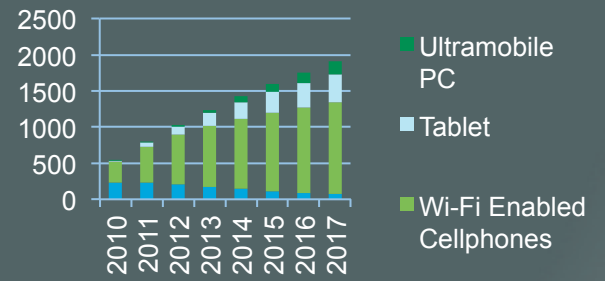
Cloud Services

Enterprise grade flexibility and scale

WebEx Integration, Service Provider Offerings

© 2010 Cisco and/or its affiliates. All rights reserved.

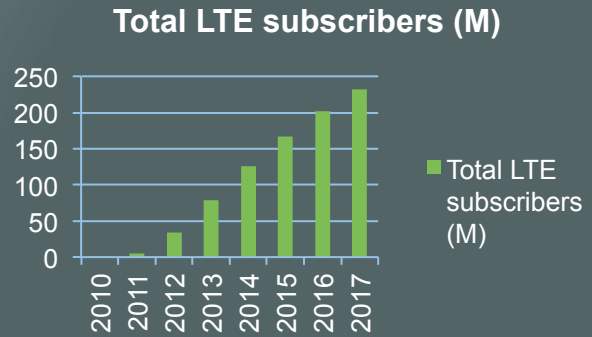
What we see in the mobile space…



"Connected CE Devices Global Market Forecast" - Strategy Analytics, March 2013

- ~1 Billion Tablets and Smartphones will be sold in 2013
- 1.7 Billion mobile units by 2017
- That many devices would wrap around Earth's equator **5.4** times
- Combined….mobile devices will sell 6 times faster than traditional notebooks

- 4G LTE bandwidth unlocks synchronous and asynchronous collaboration
- By 2014, there will be 125 Million LTE subscribers in U.S. market alone
- LTE subscribers will grow by 60% in 2014 and 46% CAGR through 2017



"U.S. LTE Subscriber 2013–2017 Forecast" – IDC, March 2013

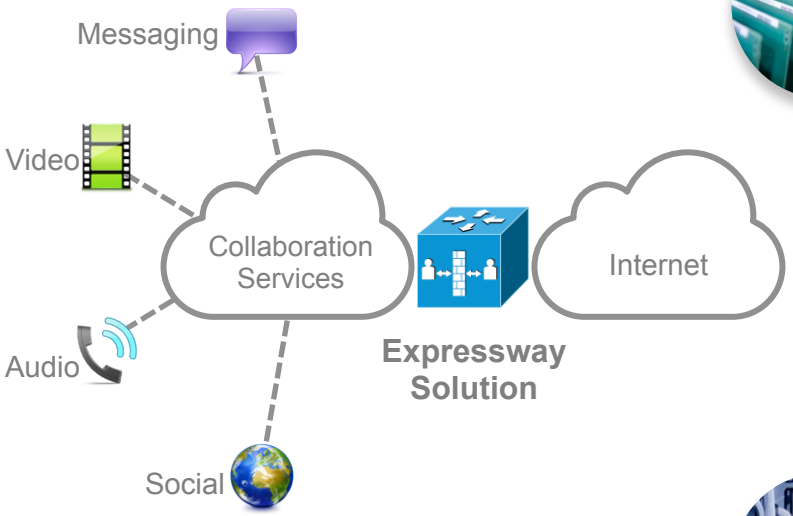
© 2010 Cisco and/or its affiliates. All rights reserved.

Reshaping the edge of the network…

Single Purpose	Multi-modal
Device-centric	Multi-device, User-centric
On-premise service delivery	Hybrid service delivery
Network driven security	Application driven security

© 2010 Cisco and/or its affiliates. All rights reserved.

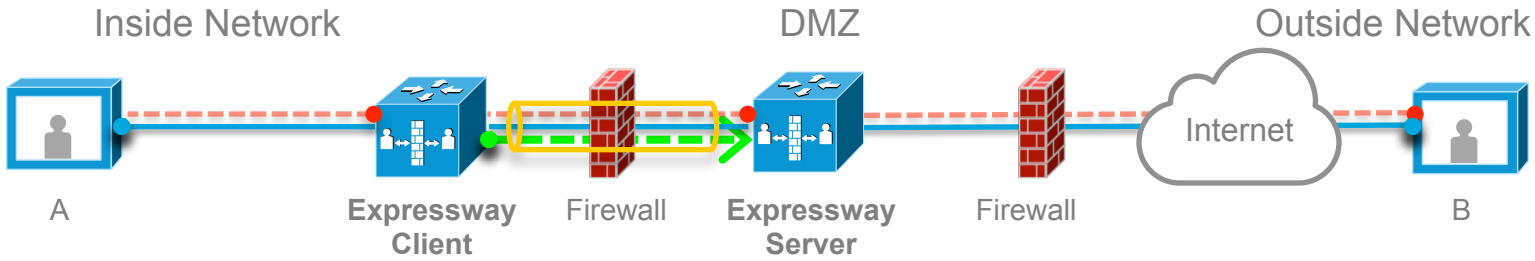
Expressway
An integral part of Cisco's Collaboration Solutions



- In deployment since 2005
- Over 15,000 customers deployments worldwide
- Including over 70% of Fortune 200
- In all markets segments: Finance, Manufacturing, Retail, Government, Defense, Emergency Services, Education & Healthcare

© 2010 Cisco and/or its affiliates. All rights reserved.

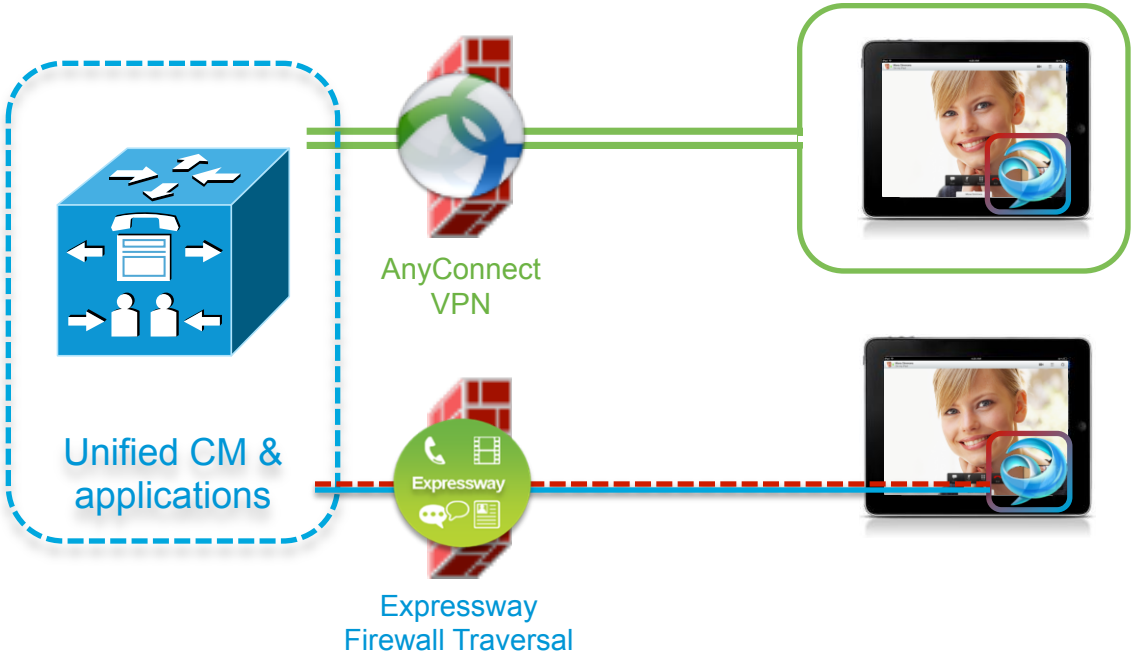
How Expressway Firewall Traversal Works…



1. VCS Expressway is the traversal server installed in DMZ. VCS Control is the traversal client installed inside the enterprise network.
2. VCS Control connects via the firewall to a specific port on the VCS Expressway with secure login credentials.
3. Once the connection has been established, the VCS Control sends keep-alive packets to the VCS Expressway
4. When VCS Expressway receives an incoming call, it issues an incoming call request to VCS Control.
5. The VCS Control then initiates connection to the endpoint
6. The call is established and media traverses the firewall securely

© 2010 Cisco and/or its affiliates. All rights reserved.

Jabber Remote Access Options

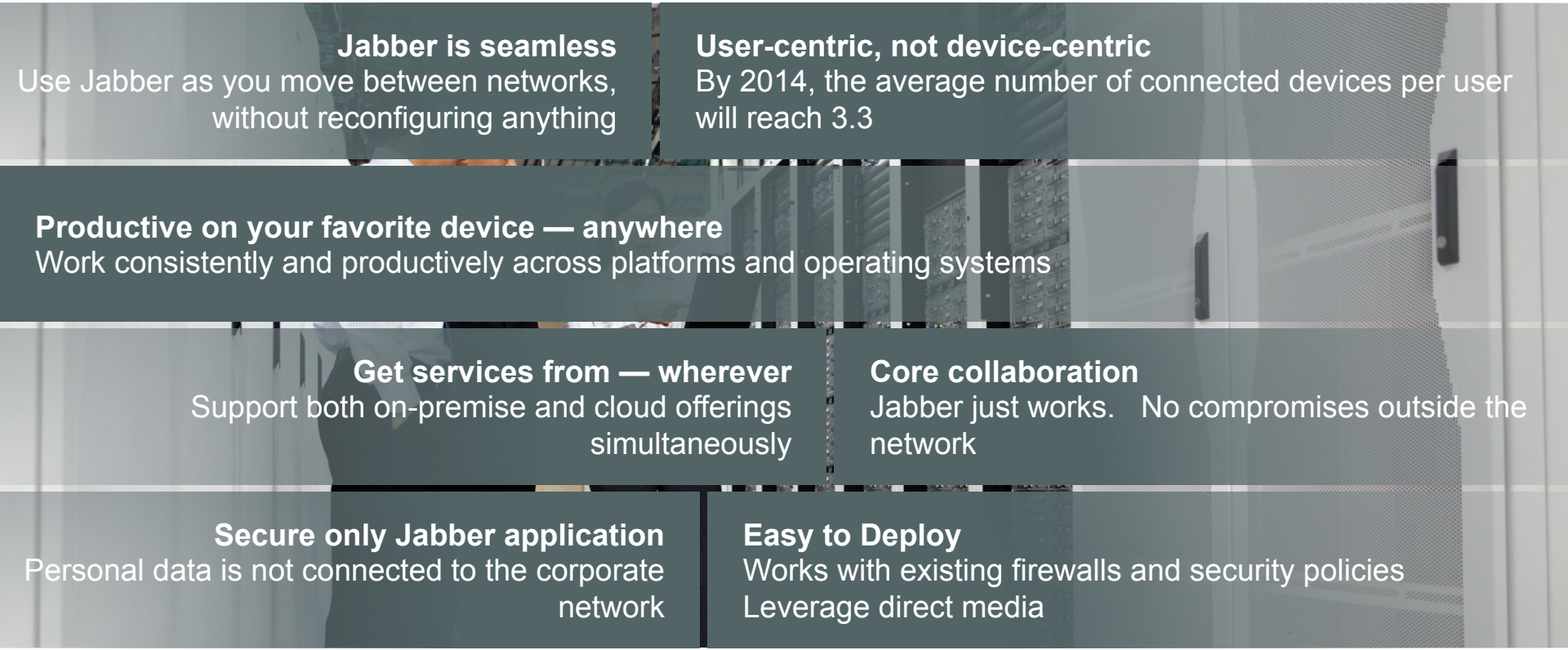


- Layer 3 VPN Solution
- Secures the entire device and it's contents
- Any allows users access to any permitted applications & data

- **NEW (FCS Q4 CY13)**
- Session-based firewall traversal
- Allows access to collaboration applications ONLY
- i.e. Personal data not routed through enterprise network

© 2010 Cisco and/or its affiliates. All rights reserved.

Solution Benefits



Jabber is seamless
Use Jabber as you move between networks, without reconfiguring anything

User-centric, not device-centric
By 2014, the average number of connected devices per user will reach 3.3

Productive on your favorite device — anywhere
Work consistently and productively across platforms and operating systems

Get services from — wherever
Support both on-premise and cloud offerings simultaneously

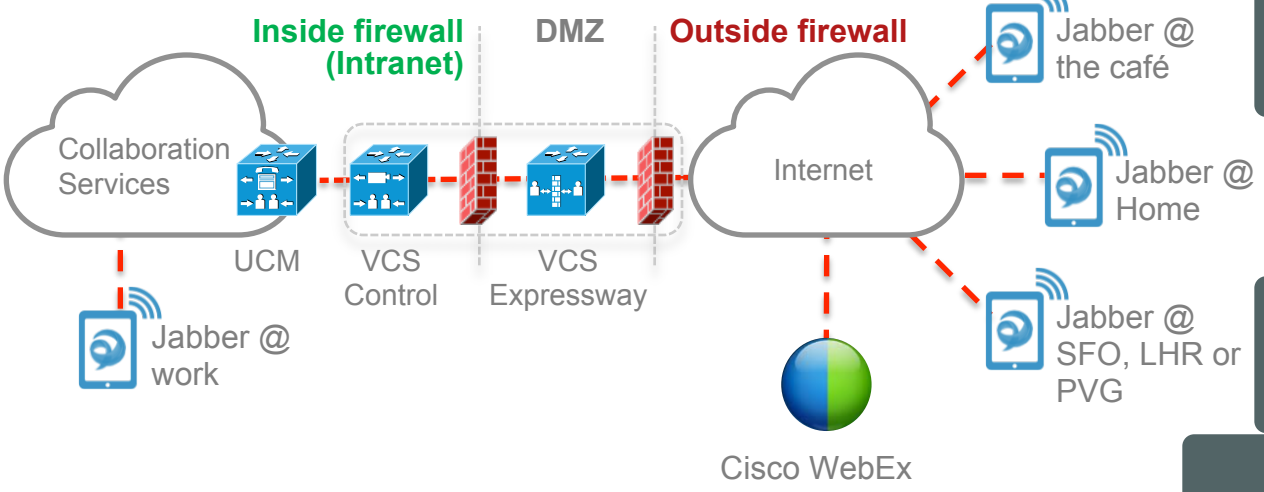
Core collaboration
Jabber just works. No compromises outside the network

Secure only Jabber application
Personal data is not connected to the corporate network

Easy to Deploy
Works with existing firewalls and security policies
Leverage direct media

© 2010 Cisco and/or its affiliates. All rights reserved.

Jabber Mobility with Expressway

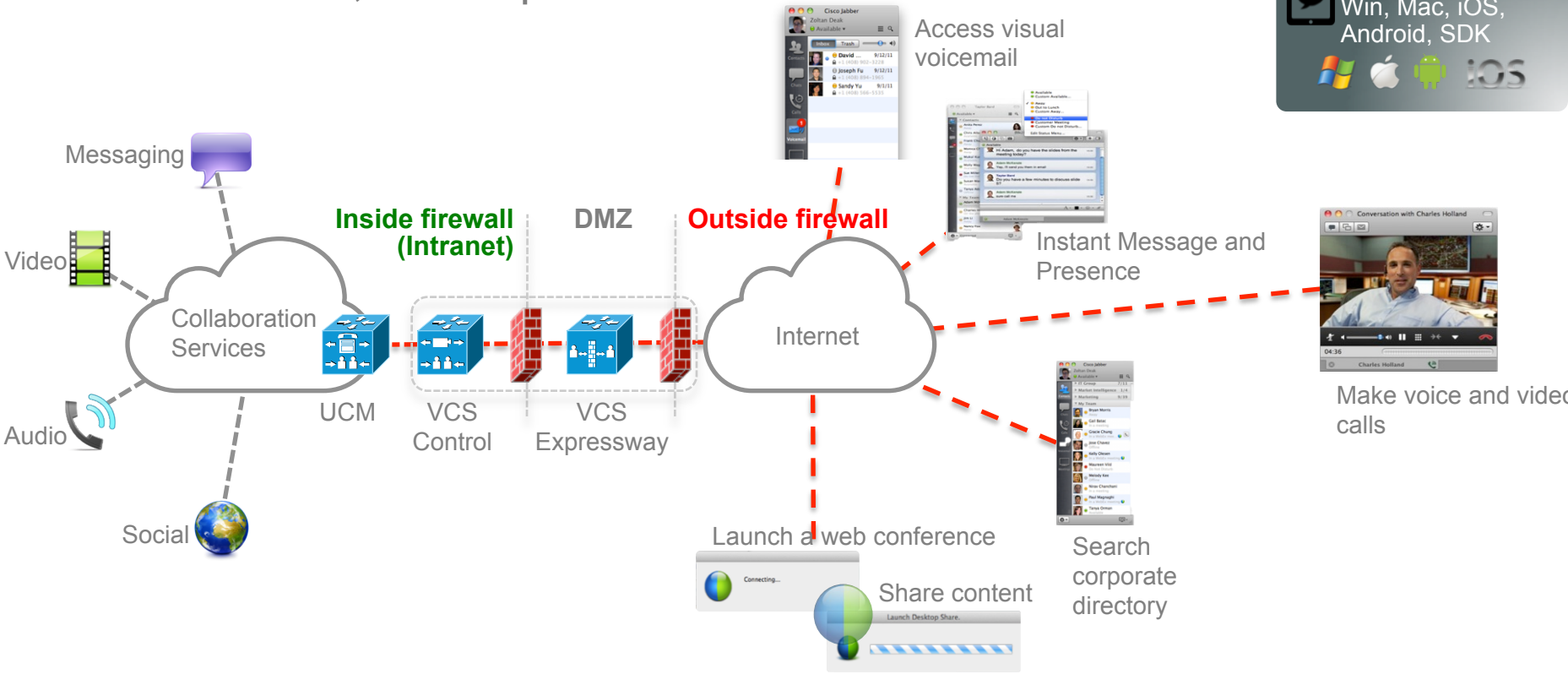


- Core collaboration inside and outside the enterprise
- Automatic location discovery
- Authentication, Provisioning, and Configuration via UCM
- Support for hybrid service delivery (on-prem and cloud)
- Device / OS agnostic architecture

© 2010 Cisco and/or its affiliates. All rights reserved.

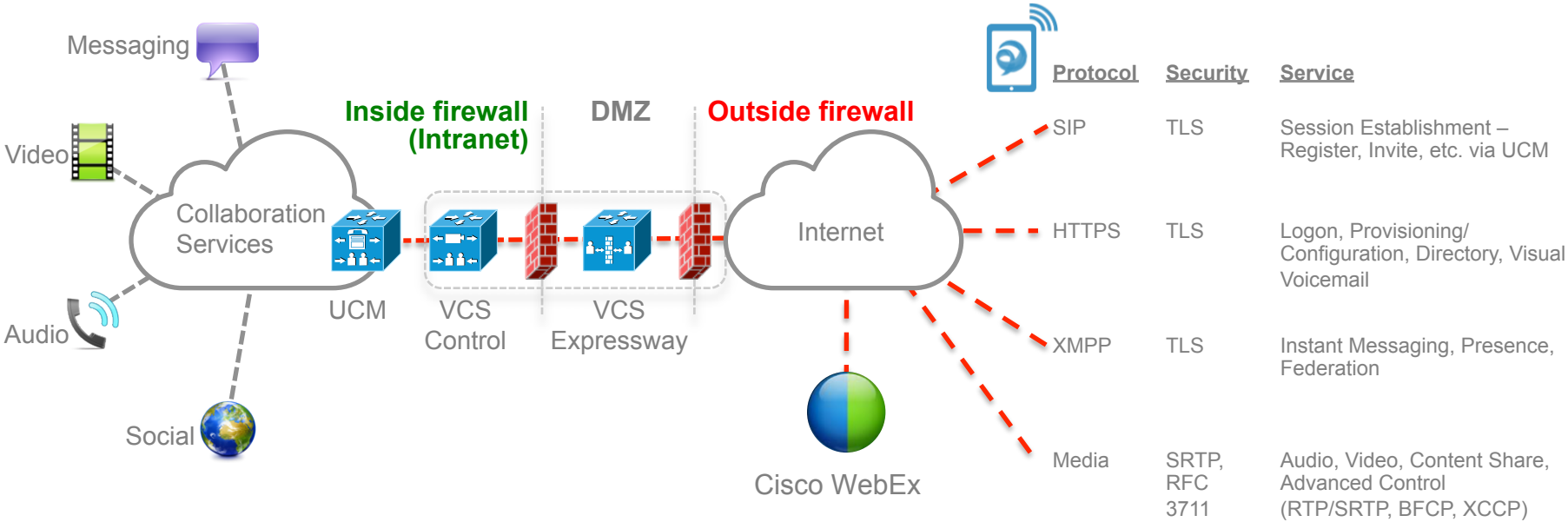
What can Jabber do with Expressway?

Core collaboration, no compromises



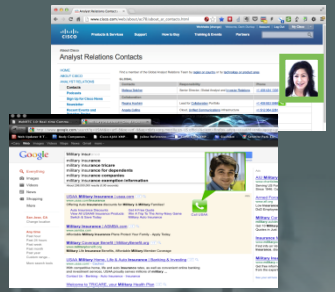
© 2010 Cisco and/or its affiliates. All rights reserved.

Protocol Workload Summary



© 2010 Cisco and/or its affiliates. All rights reserved.

Expressway enabled clients

Desktop	Tablet	Smartphone	Web	Fixed
				
Mac OS X Windows	iPad iOS 6.1	iPhone iOS 6.1 Android 4.2	Jabber Public to Enterprise (P2E) Jabber SDK	EX Series MX Series C Series
Preliminary Target Client Vehicles – Subject to change				
Jabber Desktop 9.6	Jabber Mobile 9.6	Jabber Mobile 9.6	Jabber P2E 10.0 Jabber SDK 9.6	TelePresence TC7.0

Expressway system support…

Login, Automatic Location Discovery, TLS security, and ICE client

© 2010 Cisco and/or its affiliates. All rights reserved.

Simplifying UC Deployment: Fixed Endpoints

Today

Endpoint registration, call control and provisioning are serviced by VCS Control and TMS

Outside firewall

Collaboration Services

UCM

VCS Control

VCS Expressway

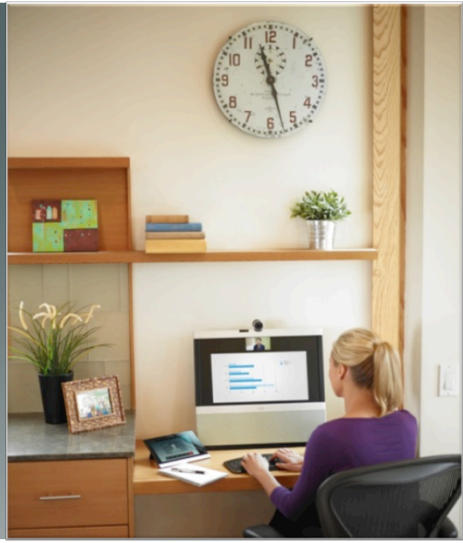
Internet

TC7.x Series Platforms

C Series

EX Series

MX Series

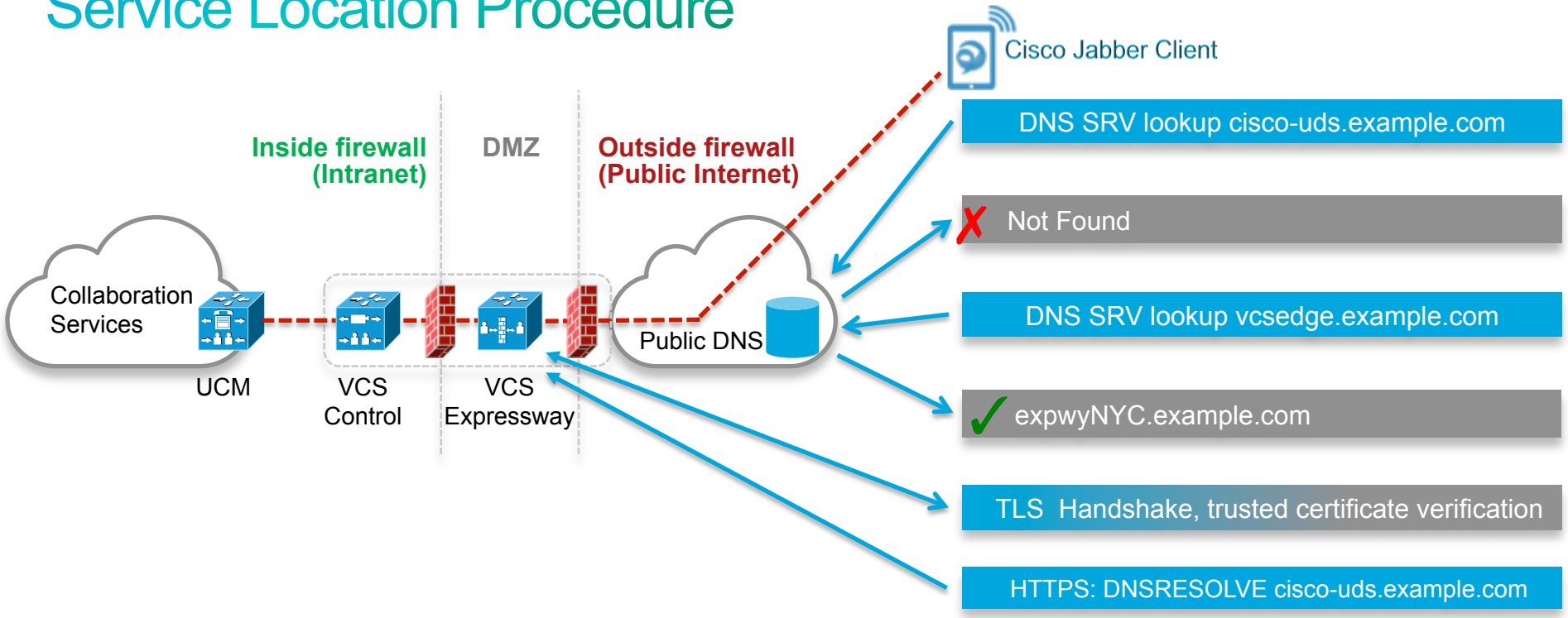


Endpoint registration, call control, and provisioning are serviced by UCM

With Expressway X8.0

© 2010 Cisco and/or its affiliates. All rights reserved.

Service Location Procedure



© 2010 Cisco and/or its affiliates. All rights reserved.

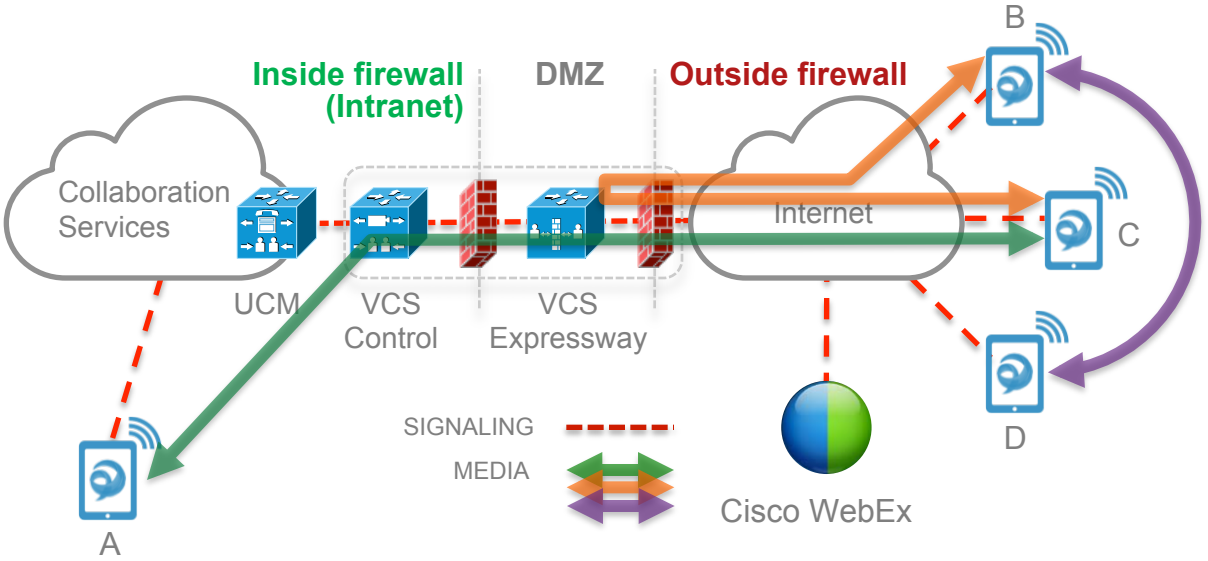
UCM features relevant to Collaboration Edge

Feature / Service	Functionality	UCM 8.X	UCM 9.1	UCM 10.0	Notes
UDS: Home Cluster Discovery	Cross cluster communication used to determine user's home cluster	✗	✓	✓	Critical for multi-cluster environments
Service Discovery	UC Service Profile including IM&P server, CTI, Voicemail, etc.	✗	✓	✓	Allows for hybrid deployment of hosted WebEx Connect IM&P and on-premise CUCM
ILS: Directory URI Replication	Sync's URI and reachability across multiple enterprise clusters	✗	✓	✓	Nice to have, especially for video
UDS: Directory Search Sorting	Directory search results returned based on first name, last name, email ID	✗	✓	✓	Also includes UDS performance enhancements
ICE (Interactive Connectivity Establishment)	Optimized media between remote endpoints	✗	✗	✓	

© 2010 Cisco and/or its affiliates. All rights reserved.

Typical Media Paths

UCM provides call control for both mobile and on-premise endpoints



Media Traversal

- "C" calls "A" on-premise.
- Media firewall traversal over Expressway solution.
- VCS Control de-multiplexes media and forwards toward "A"

Media Relay

- "C" calls "B" off-premise.
- Either B or C are behind NAT
- Media is relayed via Expressway solution.

Direct Media

- "B" calls "D" off-premise.
- Both "B" and "D" are ICE-enabled and publically addressable.
- Media flows directly.

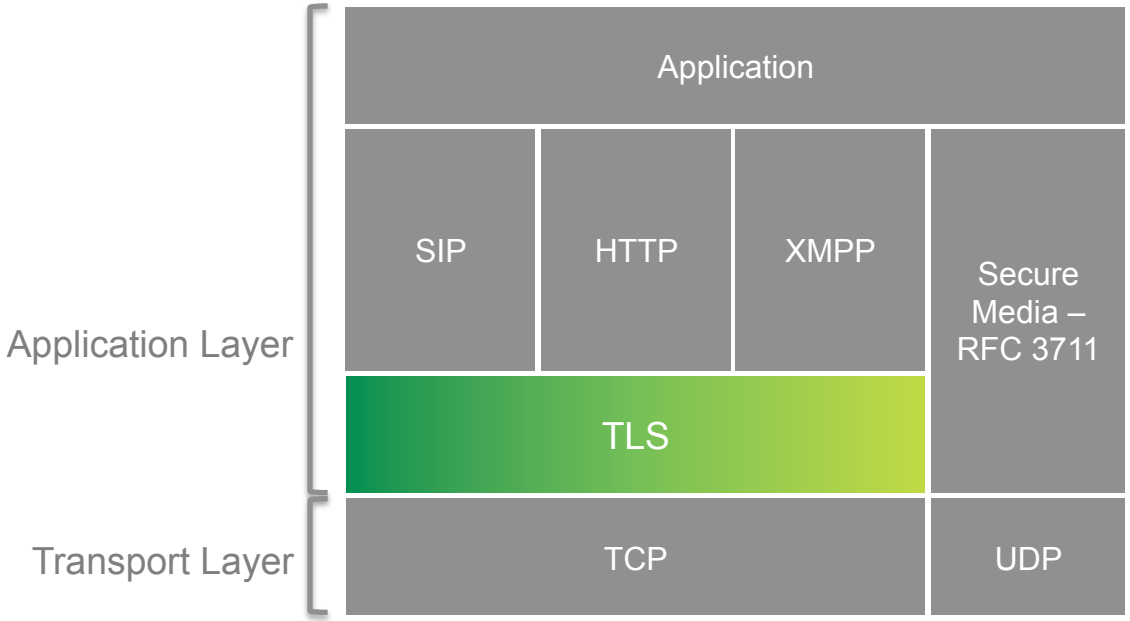
© 2010 Cisco and/or its affiliates. All rights reserved.

Collaboration Edge from UCM Perspective

- Collaboration Edge is completely transparent to UCM
- Think SIP line side integration, versus SIP trunk
- No requirement to build a SIP trunk on UCM to VCS Control or Expressway
- Remote Jabber clients registering to UCM through Expressway will appear to UCM as VCS Control IP address
- Remote fixed endpoints registering to UCM through Expressway will appear to UCM as VCS Control IP address

© 2010 Cisco and/or its affiliates. All rights reserved.

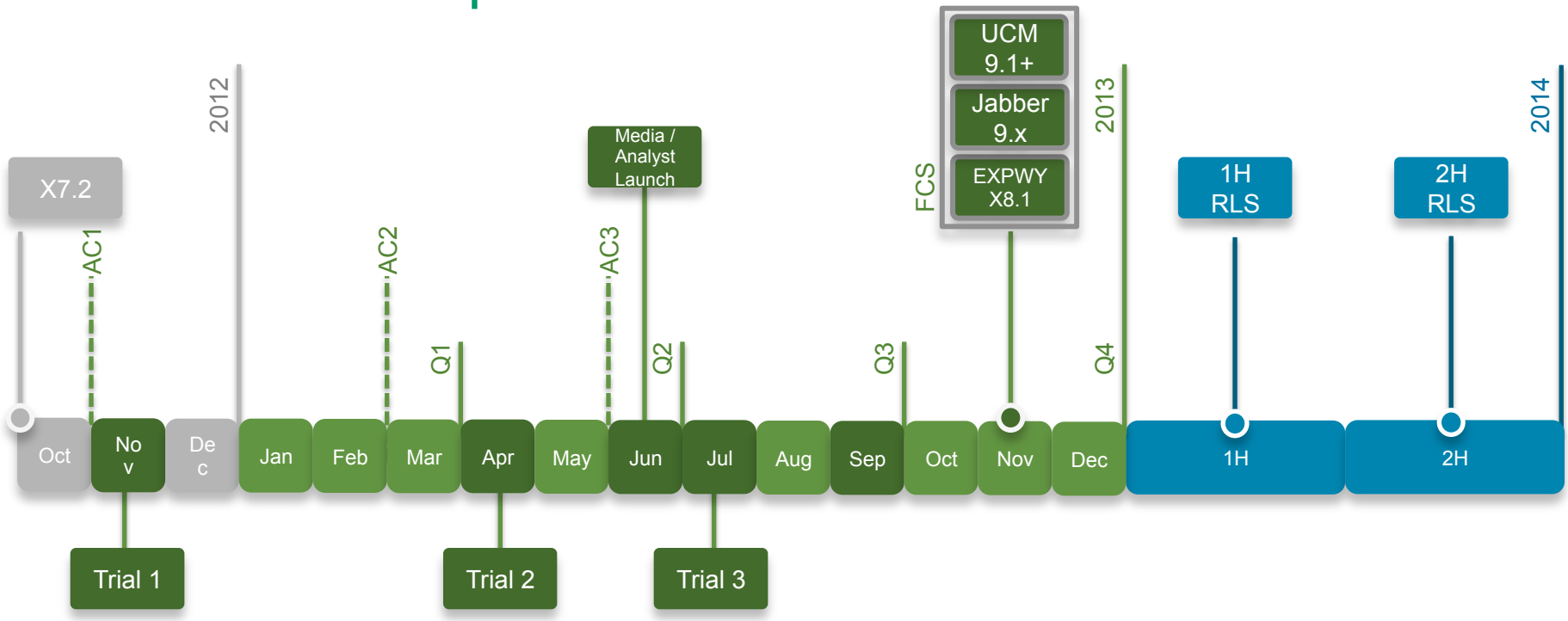
Cisco Application Driven Security Model



- ✓Most widely adopted protocols in their categories
- ✓Demonstrable Interoperability
- ✓Proven Components
- ✓Allows for services to be delivered from multiple locations
- ✓Secures only application data, not entire device
- ✓Requires no reconfiguration from user

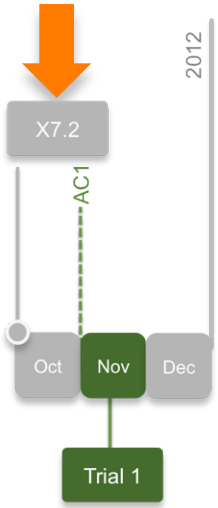
© 2010 Cisco and/or its affiliates. All rights reserved.

Detailed Roadmap



© 2010 Cisco and/or its affiliates. All rights reserved.

X7.2 – Shipping
Collab. Edge relevant Features



Selective Media Encryption

- SRTP termination:
  RTP->SRTP, SRTP->RTP
- VCS is now able to selectively add & remove encryption capability for SIP calls flowing through it.
- Limitations
  SIP & Interworked call feature only (Not available in native H.323 call)

Controlled TLS terminations

- White List connections via regex matching on certificates
- Limitations
  Maximum of 10,000 regex matches on default zone

© 2010 Cisco and/or its affiliates. All rights reserved.

Remote & Mobile Collaboration X8.1 Release

Use your favorite device — anywhere

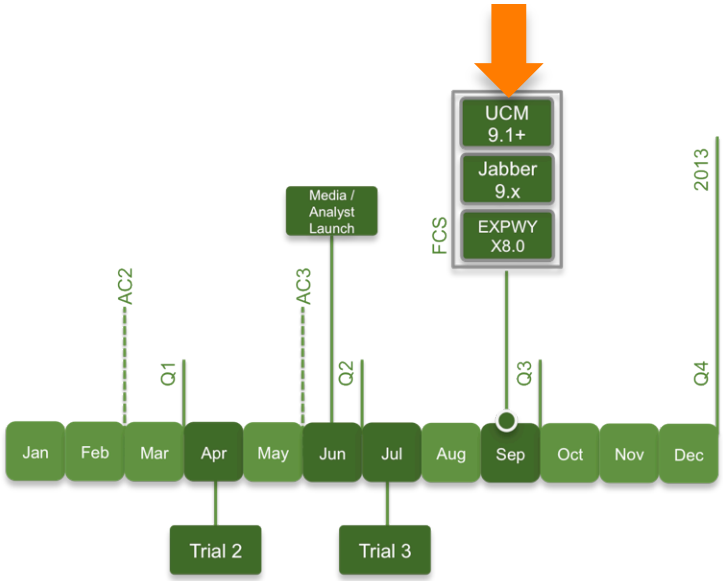
- Jabber for Win, Mac, iPad*, iPhone, Android, JabberC*, SDK*

Unprecedented Scale…

- 10,000 TLS terminations
- Maintain state for up to 5,000 registrations
- 500 CPU-intensive video calls, ~2,000 audio calls
- Cluster support for 4X scale

Simplify TelePresence Deployment…

- EX, MX, C, SX (TC7.x) series TelePresence
- Provision, Configure, Register via UCM remotely without a VPN



Core Collaboration Experiences…

- IM&P on-prem or cloud
- Hybrid service support
- Voice & Video
- Visual Voicemail
- Directory
- Direct Media w/ICE (UCM 10.x)*

Simplified Licensing…

© 2010 Cisco and/or its affiliates. All rights reserved.

Product Line Options X8.1

Video Communication Server (standalone video)	Expressway for UCM (Unified Communications)
VCS Control Appliance VM VCS Control	Expressway C Appliance VM Expressway C
VCS Expressway Appliance VM VCS Expressway	Expressway E Appliance VM Expressway E
VCS Starter Pack Express Appliance	

© 2010 Cisco and/or its affiliates. All rights reserved.

Expressway for the Collaboration Edge

Expressway for UCM

New X8.1

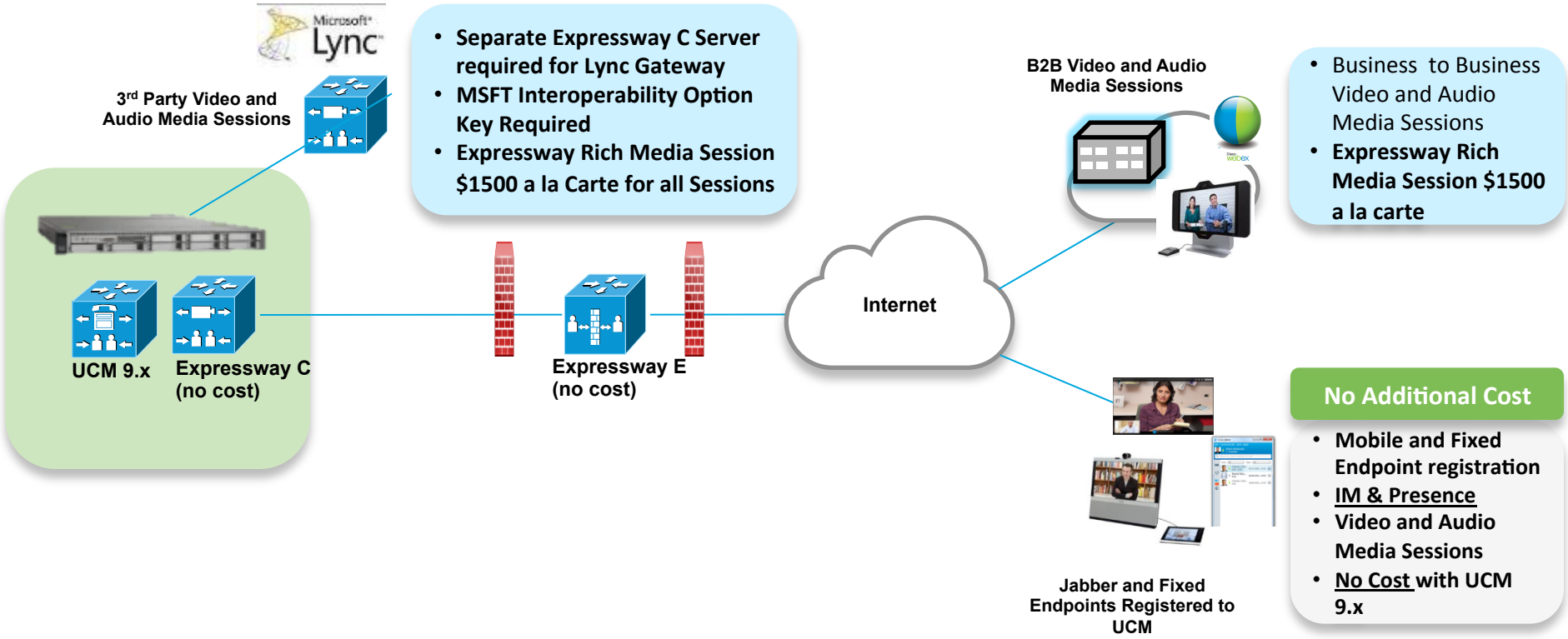
- **Solution engineered specifically for the UCM install base**
- Remote and mobile traversal capabilities to Jabber and fixed endpoints for existing and new UCM install base
- B2B Video and Audio for UC customers (Expressway Rich Media Session a la carte)
- Connects Cisco UC solution to other 3rd party UC solutions (Microsoft Lync 2013) (Expressway Rich Media Session a la carte)
- Available **only** for UCM 9.x and above customers
- Leverages existing UCM licensing model

VCS Control and VCS Expressway

- **A solution for standalone video customers**
- Standalone video applications for video-only customer base (GK, SIP Proxy, interworking, traversal)
- Positioned to **non-UCM** customers
- For customers that require endpoints **to register** to VCS
- Leverages H.323-SIP interworking and support for standards compliant 3rd party endpoints
- Connects Cisco UC solution to other 3rd party UC solutions (Microsoft Lync 2013)
- No changes in licensing model

© 2010 Cisco and/or its affiliates. All rights reserved.

Expressway Offer Summary



© 2010 Cisco and/or its affiliates. All rights reserved.

Thank you.