

# What You Make Possible



# Federating Unified Communications

BRKUCC-2666

## Fundamentals

Scenario 1: Inter-Domain Federation to Jabber

Scenario 2: Inter-Domain Federation to Lync

Scenario 3: Inter-Domain Federation to Public IM

Scenario 4: Intra-Domain Federation between Jabber & Lync

Scenario 5: Cloud WebEx Messenger Inter-Domain Federation



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Scenario 5: Cloud WebEx Messenger Inter-Domain Federation

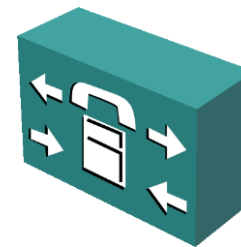


# Cisco Unified Communications

## The Fundamentals

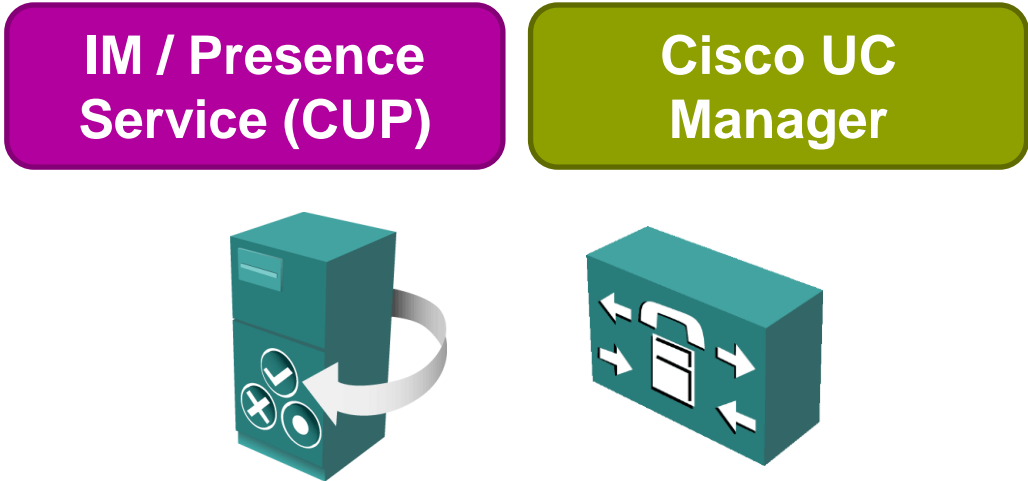
IM / Presence  
Service (CUP)

Cisco UC  
Manager



# Cisco Unified Communications

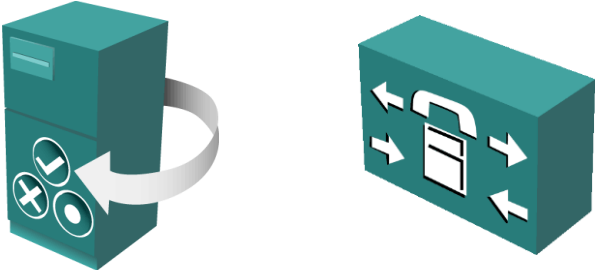
## The Fundamentals



# Cisco Unified Communications

## The Fundamentals

IM / Presence Service (CUP) Cisco UC Manager



Cisco Jabber

Cisco IP Phones

Cisco TelePresence

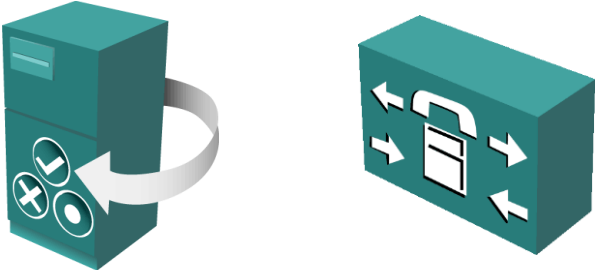
# Cisco Unified Communications

## XMPP for Presence

IM / Presence Service (CUP)

Cisco UC Manager

XMPP (Instant Message & Presence)



Cisco Jabber

Cisco IP Phones

Cisco TelePresence

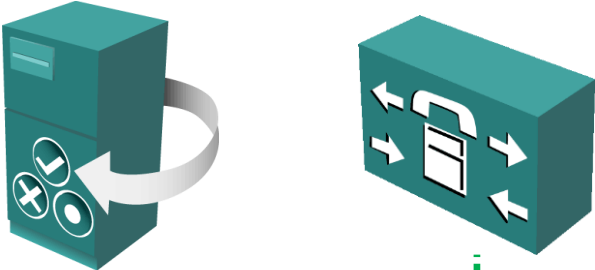




# Cisco Unified Communications

Call Control for Video / Voice Capability

IM / Presence Service (CUP) Cisco UC Manager



XMPP (Instant Message & Presence)

SIP (Call Control for Video / Voice)



BlackBerry Android iOS Apple Windows Cisco Jabber

Cisco IP Phones

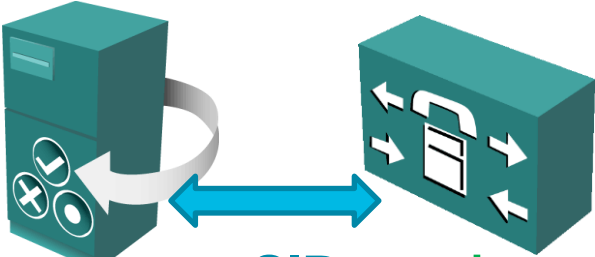
Cisco TelePresence

# Cisco Unified Communications

## CUCM-Registered Device Presence

IM / Presence Service (CUP)

Cisco UC Manager



XMPP (Instant Message & Presence)

SIP (Call Control for Video / Voice)



Cisco Jabber

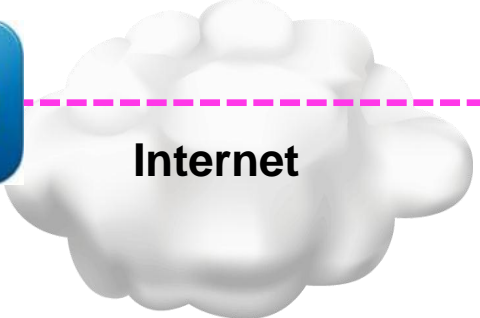
Cisco IP Phones

Cisco TelePresence

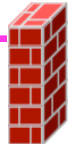
# Hybrid Cisco Unified Communications

WebEx Messenger: Cloud-Based IM/Presence Service

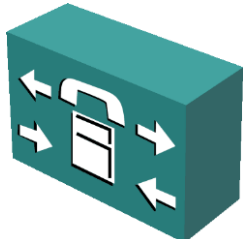
WebEx Messenger



Internet



Cisco UC Manager



XMPP (Instant Message & Presence)

SIP (Call Control for Video / Voice)



Cisco Jabber

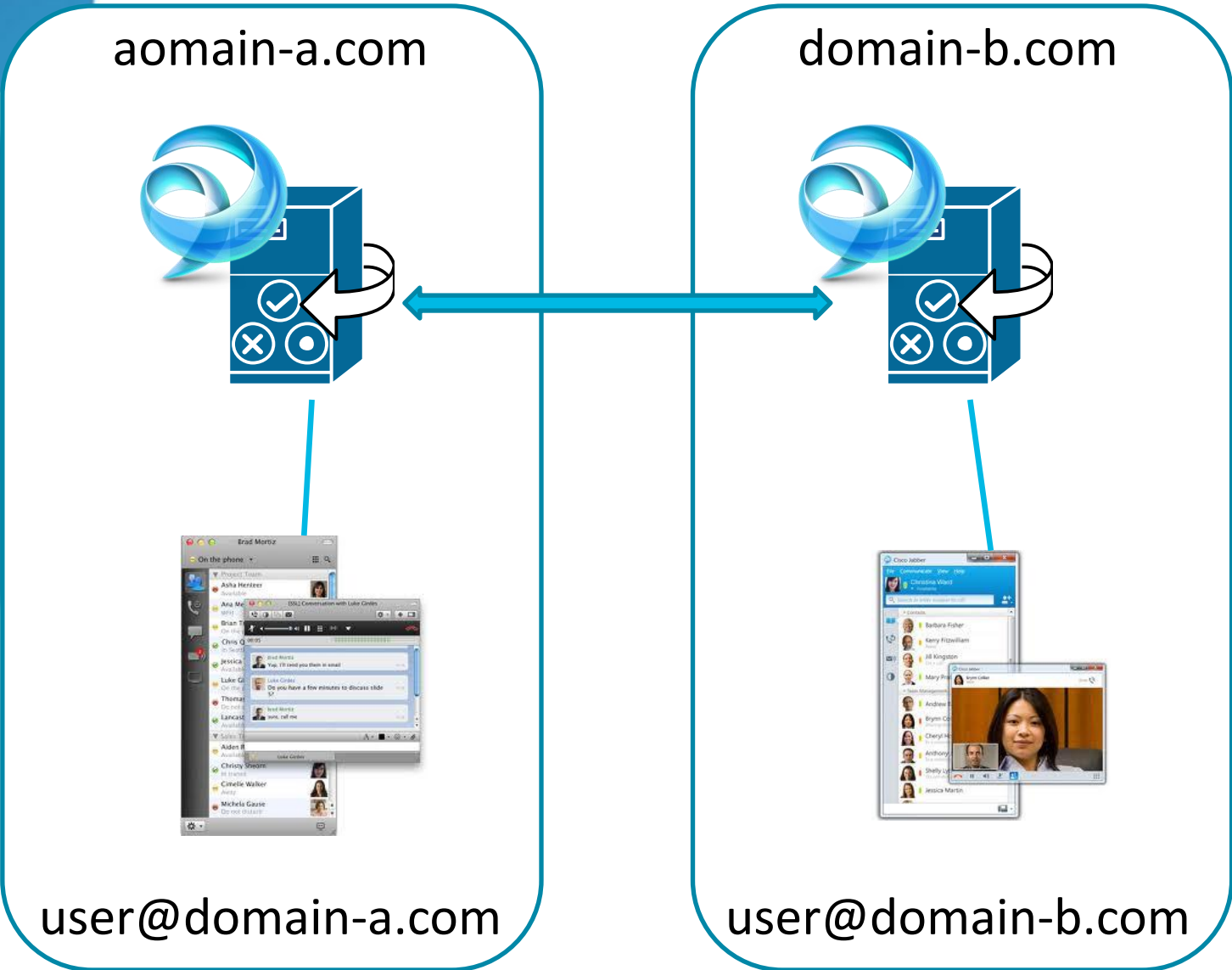
Cisco IP Phones

Cisco TelePresence

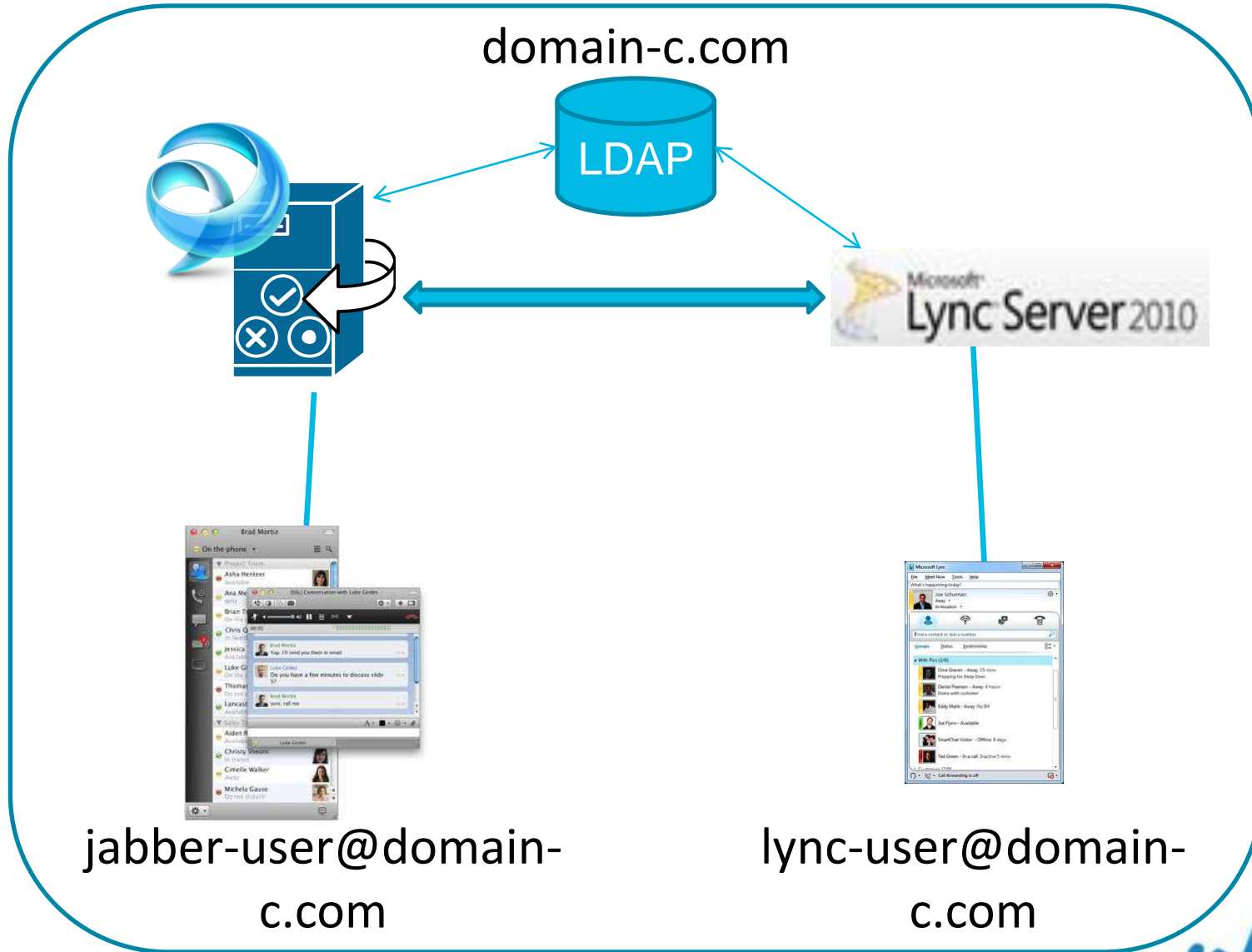
# Federation Types

## Overview

### 1: Inter-Domain Federation



### 2: Intra-Domain Federation



# Federation and Unified Communications

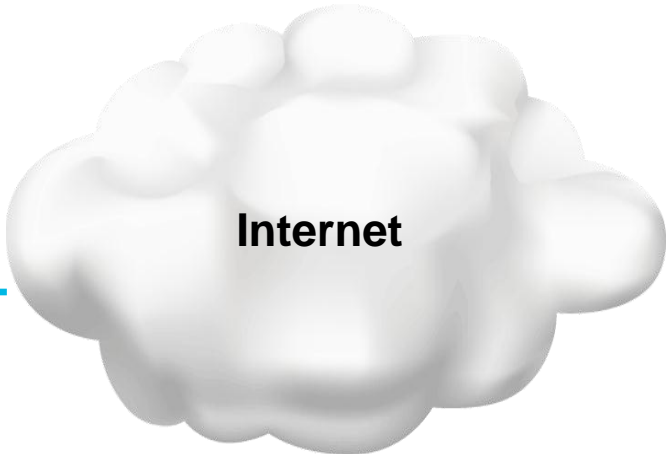
Organisation with On-Premises Cisco UC

## On-Prem IM/Presence

Jabber Users



Video / Voice



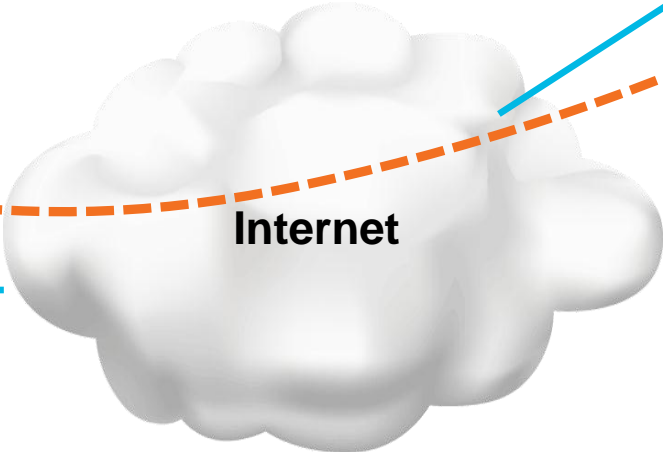
# Federation and Unified Communications

## Scenario 1: Inter-Domain B2B Federation to Cisco Jabber

**On-Prem IM/Presence**

Jabber Users

Video / Voice

A light blue rounded rectangle representing an on-premise environment. It contains the Jabber logo, several screenshots of the Jabber interface on desktop, tablet, and smartphone, and images of a video conference room with a large screen and a desk with people, along with a Cisco IP phone.

**B2B Federation to Jabber**

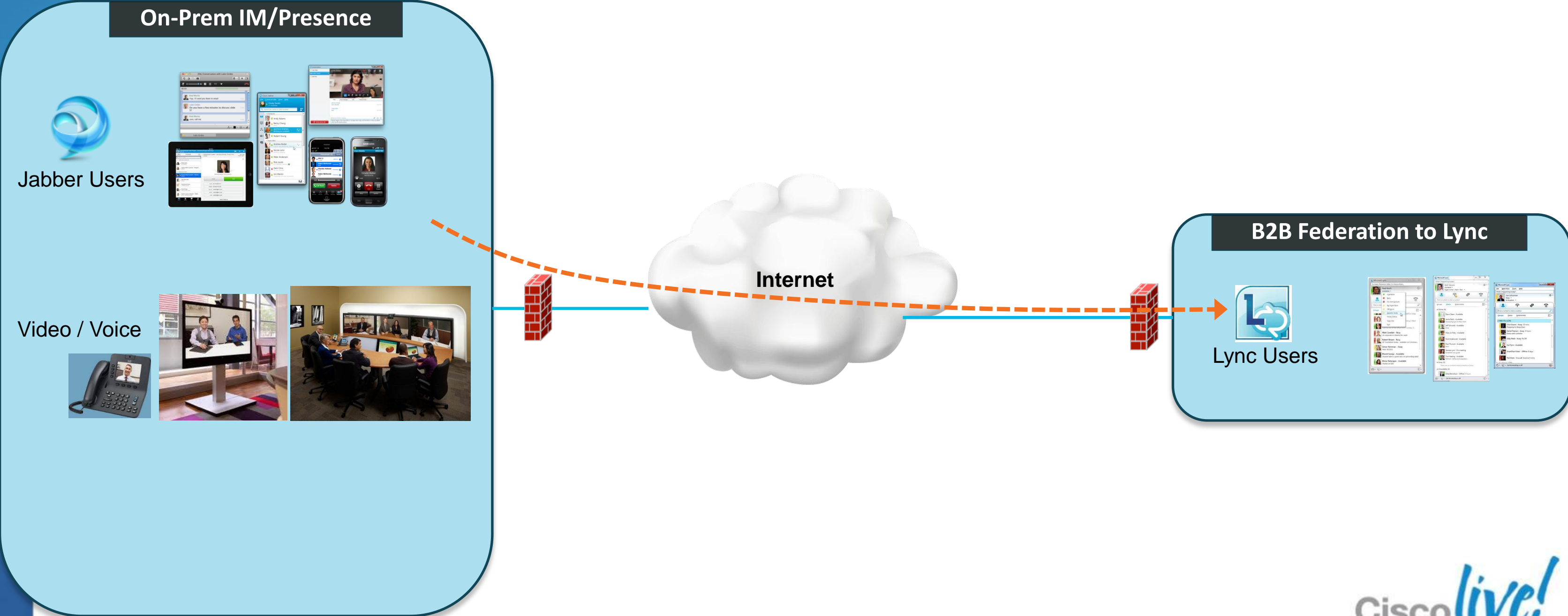
Jabber Users

Video / Voice

A light blue rounded rectangle representing a B2B federated environment. It contains the Jabber logo, screenshots of the Jabber interface on desktop, tablet, and smartphone, and images of a video conference room with a large screen and a desk with people, along with a Cisco IP phone.

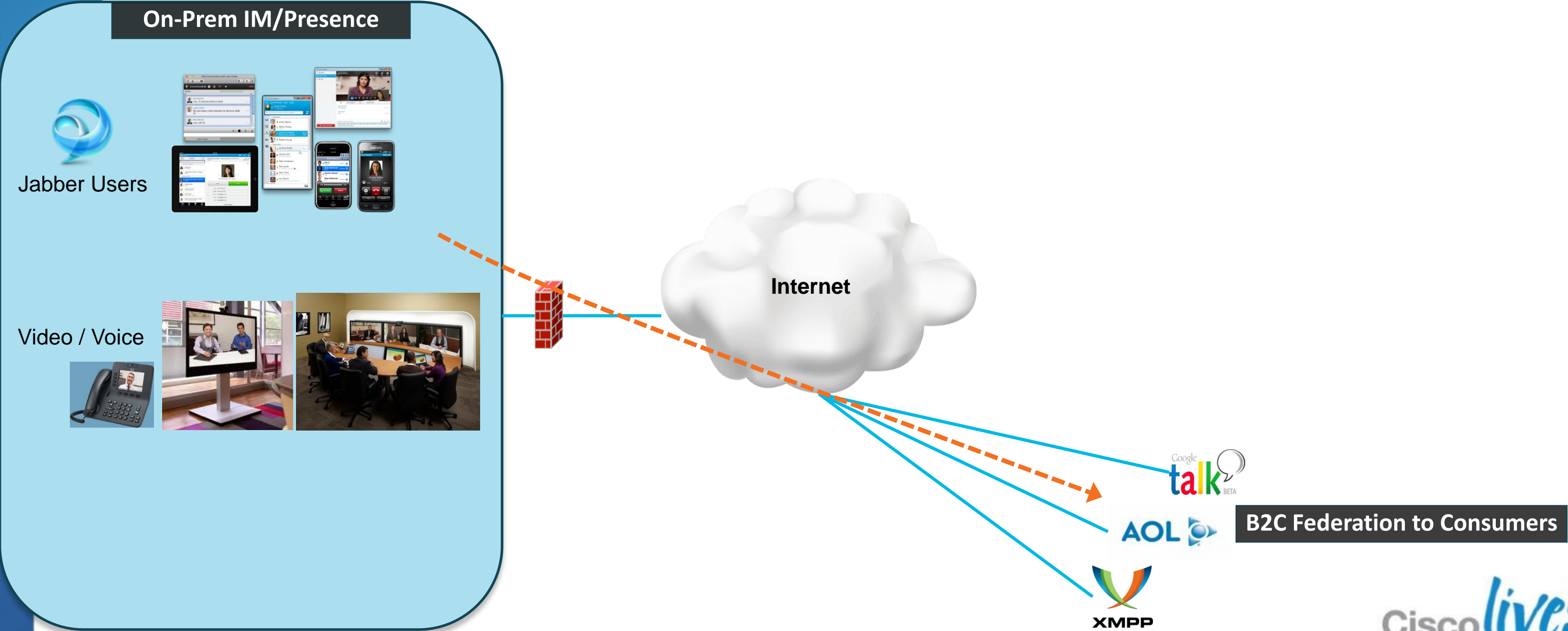
# Federation and Unified Communications

## Scenario 2: Inter-Domain B2B Federation to Lync



# Federation and Unified Communications

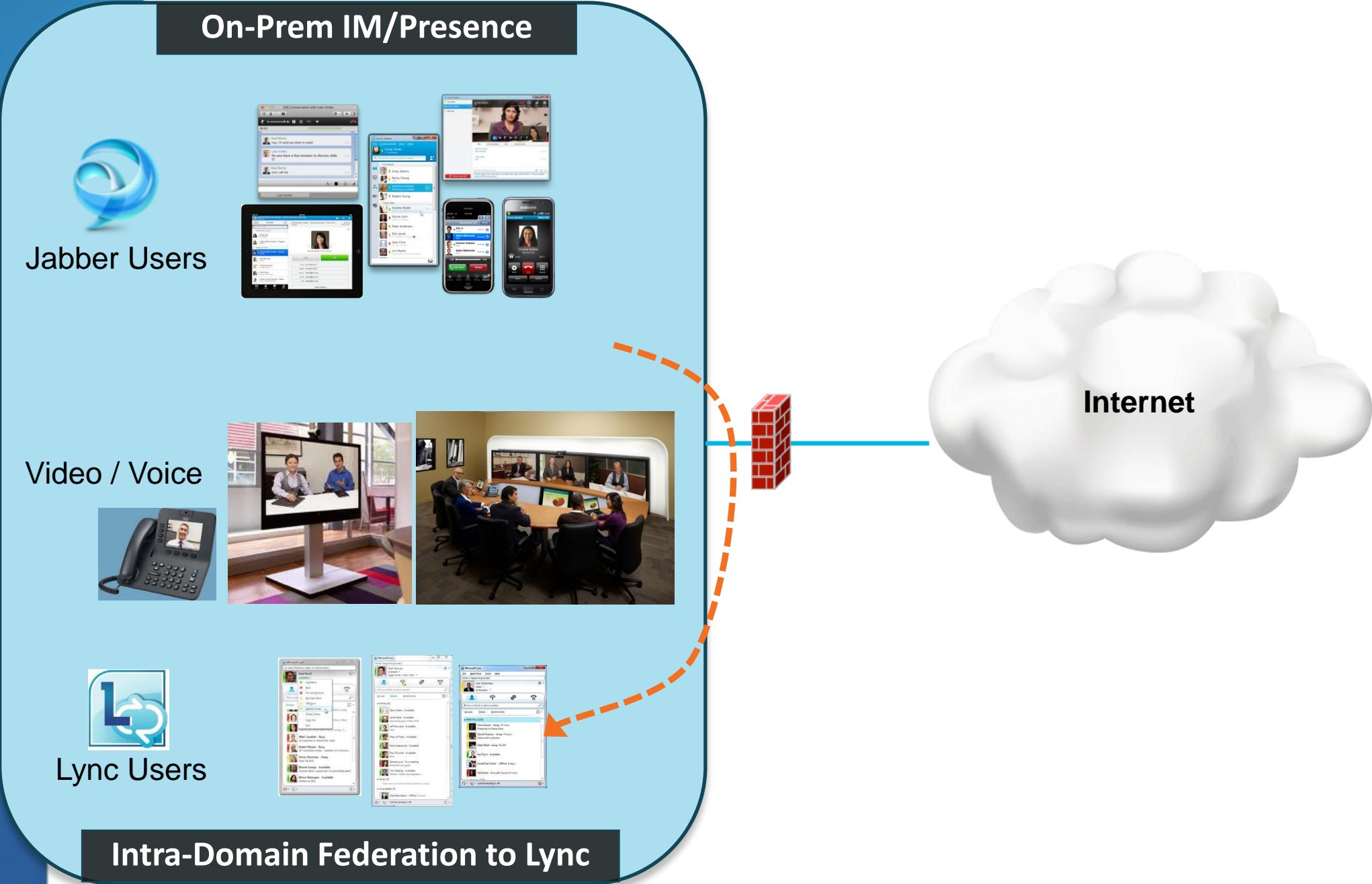
## Scenario 3: Inter-Domain B2C Federation





# Federation and Unified Communications

## Scenario 4: Intra-Domain Federation



# Federation and Unified Communications

## The 4 Common On-Premises Federation Scenarios

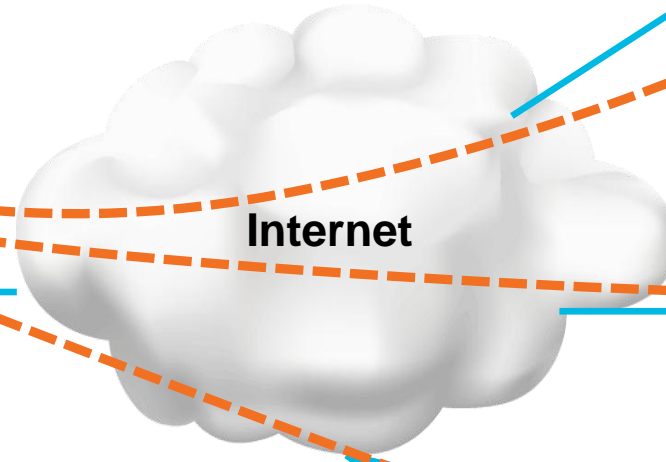
**On-Prem IM/Presence**

Jabber Users

Video / Voice

Lync Users

**Intra-Domain Federation to Lync**



**B2B Federation to Jabber**

Jabber Users

Video / Voice

**B2B Federation to Lync**

Lync Users

**B2C Federation to Consumers**

Google talk BETA

AOL



# Federation and Unified Communications

## Scenario 5: WebEx Messenger (Cloud IM/P) Federations

**Jabber Users**

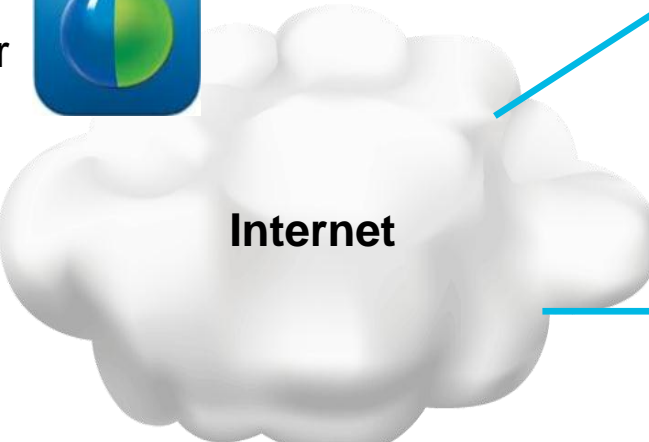


**Video / Voice**



Cloud IM/Presence

WebEx Messenger



Internet

**B2B Federation to Jabber**

**Jabber Users**




**Video / Voice**



**B2B Federation to Lync**

**Lync Users**



**B2C Federation to Consumers**



## Fundamentals

**Scenario 1: Inter-Domain Federation to Jabber**

Scenario 2: Inter-Domain Federation to Lync

Scenario 3: Inter-Domain Federation to Public IM

Scenario 4: Intra-Domain Federation between Jabber & Lync

Scenario 5: Cloud WebEx Messenger Inter-Domain Federation



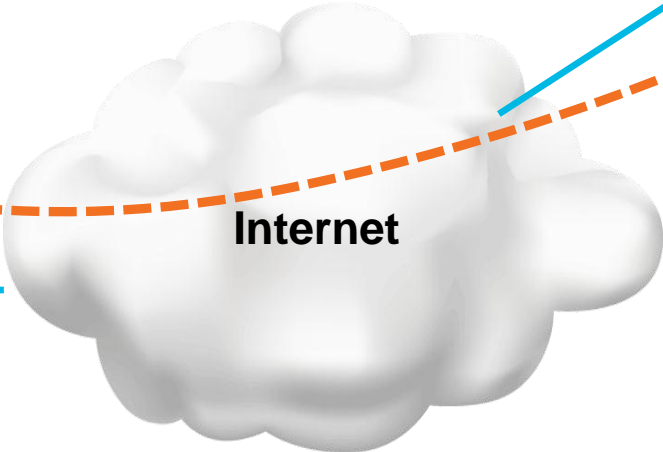
# Scenario 1

## Inter-Domain B2B Federation to Cisco Jabber

**On-Prem IM/Presence**

Jabber Users

Video / Voice

The diagram shows a light blue rounded rectangle representing an on-premise environment. At the top, a black banner contains the text "On-Prem IM/Presence". Below this, the "Jabber Users" section features the Cisco Jabber logo and several screenshots of the Jabber interface on desktop, tablet, and smartphone. The "Video / Voice" section includes a Cisco IP phone, a large monitor displaying a video conference, and a photograph of a meeting room with people around a table.

**B2B Federation to Jabber**

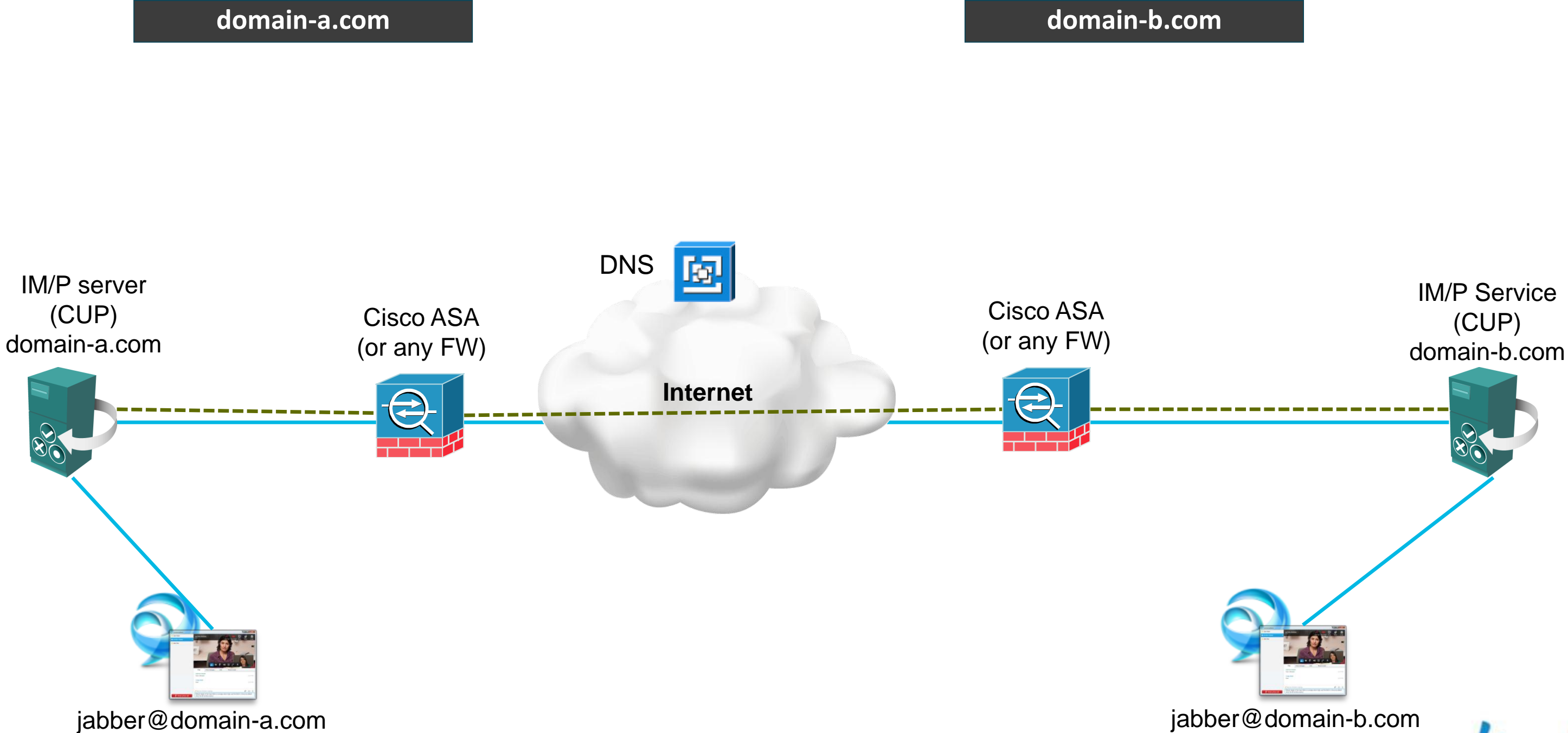
Jabber Users

Video / Voice

The diagram shows a light blue rounded rectangle representing a B2B environment. At the top, a black banner contains the text "B2B Federation to Jabber". Below this, the "Jabber Users" section features the Cisco Jabber logo and several screenshots of the Jabber interface on desktop, tablet, and smartphone. The "Video / Voice" section includes a Cisco IP phone and a photograph of a meeting room with people around a table.

# Scenario 1

## IM and Presence Federation: Key Components



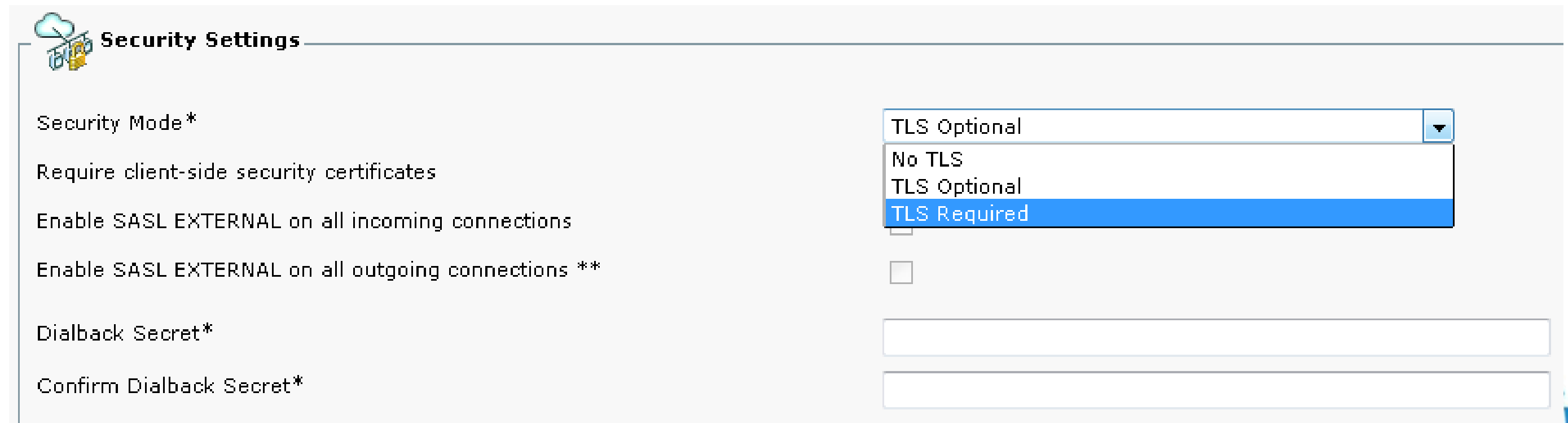
# Scenario 1

## Major Implementation Steps for IM/Presence

### 1. Configure IM and Presence for XMPP federation

- ✓ Cisco Unified CM IM and Presence Administration > Presence > Inter Domain Federation > XMPP Federation > Settings > On

### 2. Configure security for XMPP federation (TLS/SASL)



The screenshot shows the 'Security Settings' configuration page for XMPP federation. The page includes the following fields and options:

- Security Mode\***: A dropdown menu currently set to 'TLS Optional'. The dropdown is open, showing the following options: 'No TLS', 'TLS Optional', and 'TLS Required' (which is highlighted).
- Require client-side security certificates**: A checkbox that is currently unchecked.
- Enable SASL EXTERNAL on all incoming connections**: A checkbox that is currently unchecked.
- Enable SASL EXTERNAL on all outgoing connections \*\***: A checkbox that is currently unchecked.
- Dialback Secret\***: A text input field.
- Confirm Dialback Secret\***: A text input field.

# Scenario 1

## Major Implementation Steps for IM/Presence - Continued

### 3. DNS configuration

The screenshot shows the '\_xmpp-server Properties' dialog box with the following fields and callouts:

- SRV service type:** Points to the 'Service' dropdown menu, which is set to '\_xmpp-server'.
- XMPP protocol port number (5269):** Points to the 'Port number' text box, which contains the value '5269'.
- FQDN of host offering XMPP service:** Points to the 'Host offering this service' text box, which contains the value 'host.test.com'.

Other fields in the dialog include: 'Domain' (test.com), 'Protocol' (\_tcp), 'Priority' (0), and 'Weight' (0). Buttons for 'OK', 'Cancel', and 'Apply' are at the bottom.



# Scenario 1

## Major Implementation Steps for IM/Presence - Continued

### 4. Configure Cisco ASA (or other generic firewall)

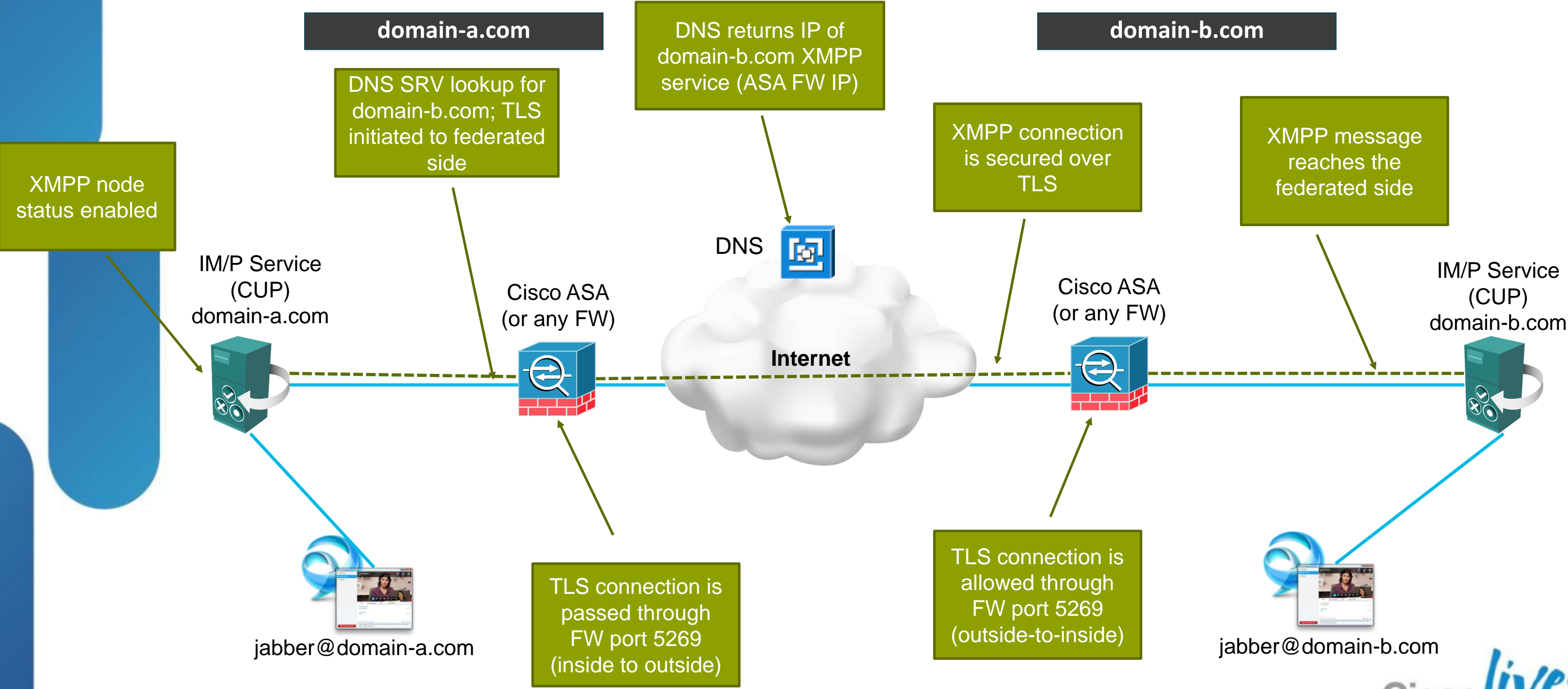
- ✓ ACL: Permit **TCP 5269** inbound and outbound to **pass through** XMPP traffic
- ✓ NAT: Public IP corresponds to host IP defined in DNS SRV
- ✓ Note that you can set up an **IM/P server proxy** in FW DMZ for **inbound XMPP**

### 5. Turn On the XMPP Federation Service

- ✓ Cisco Unified IM and Presence Serviceability > Tools > Service Activation
- ✓ Cisco XCP XMPP Federation Connection Manager

# Scenario 1

## Inter-Domain B2B Federation to Cisco Jabber (XMPP IM/Presence)



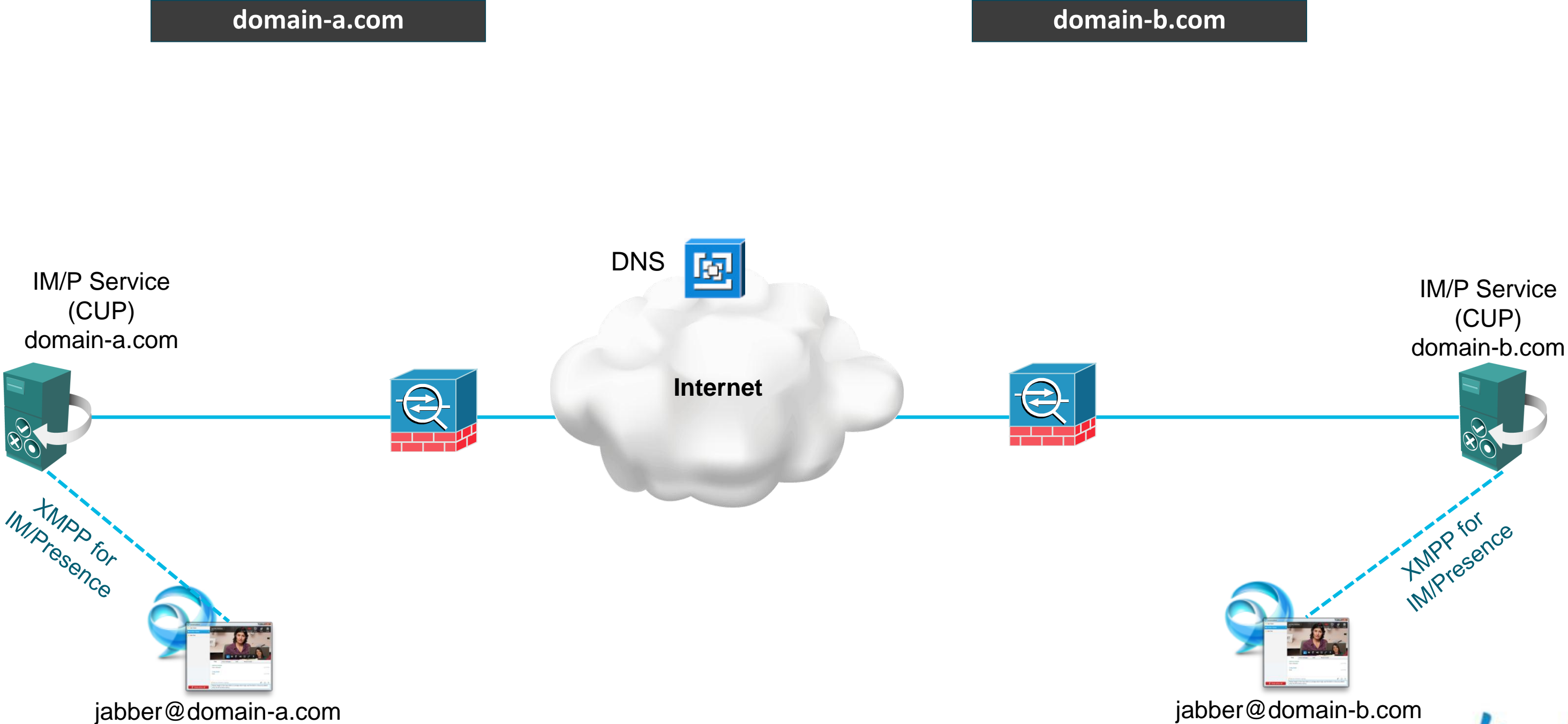
# Scenario 1

How about Video / Voice Calls?



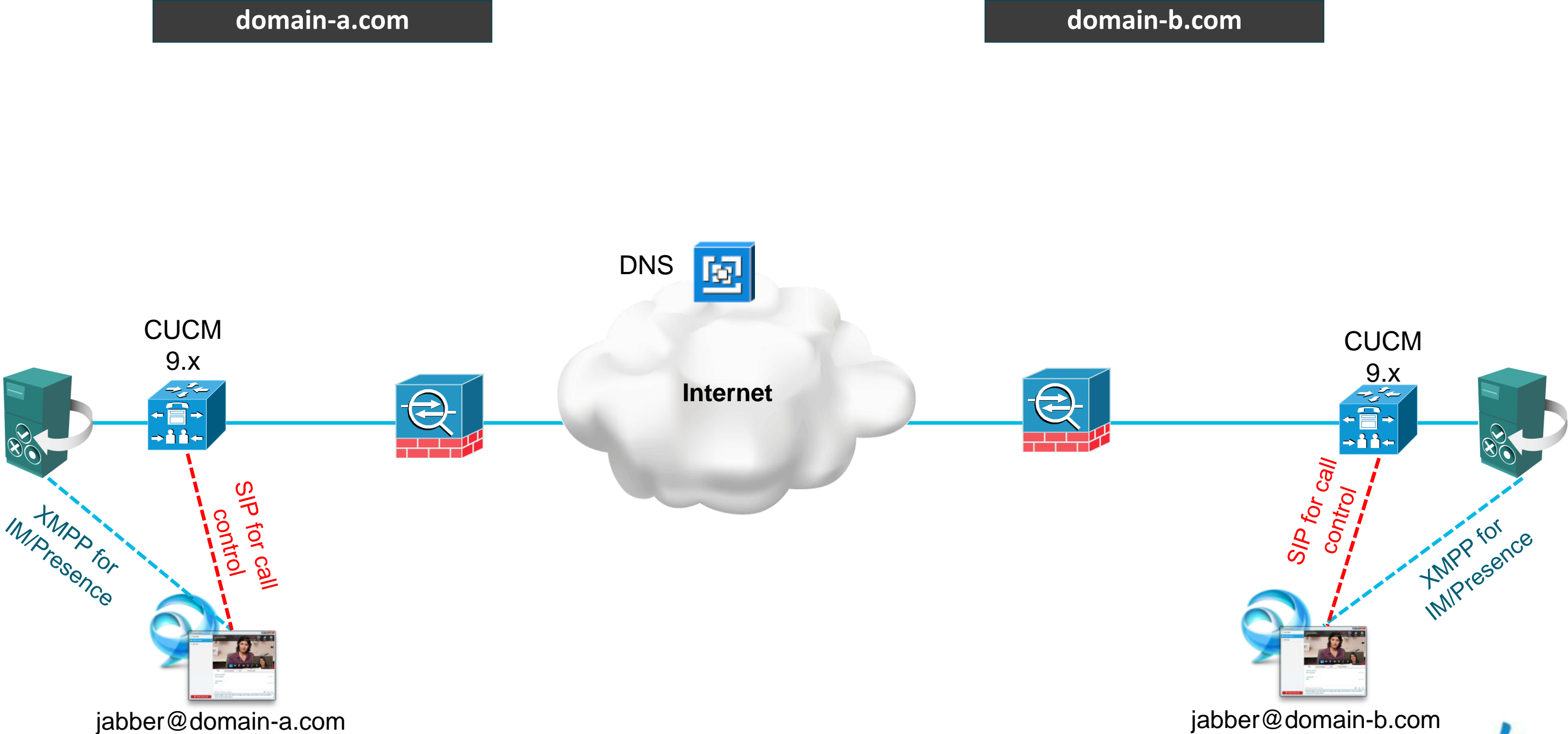
# Scenario 1

## Adding Video / Voice Capability



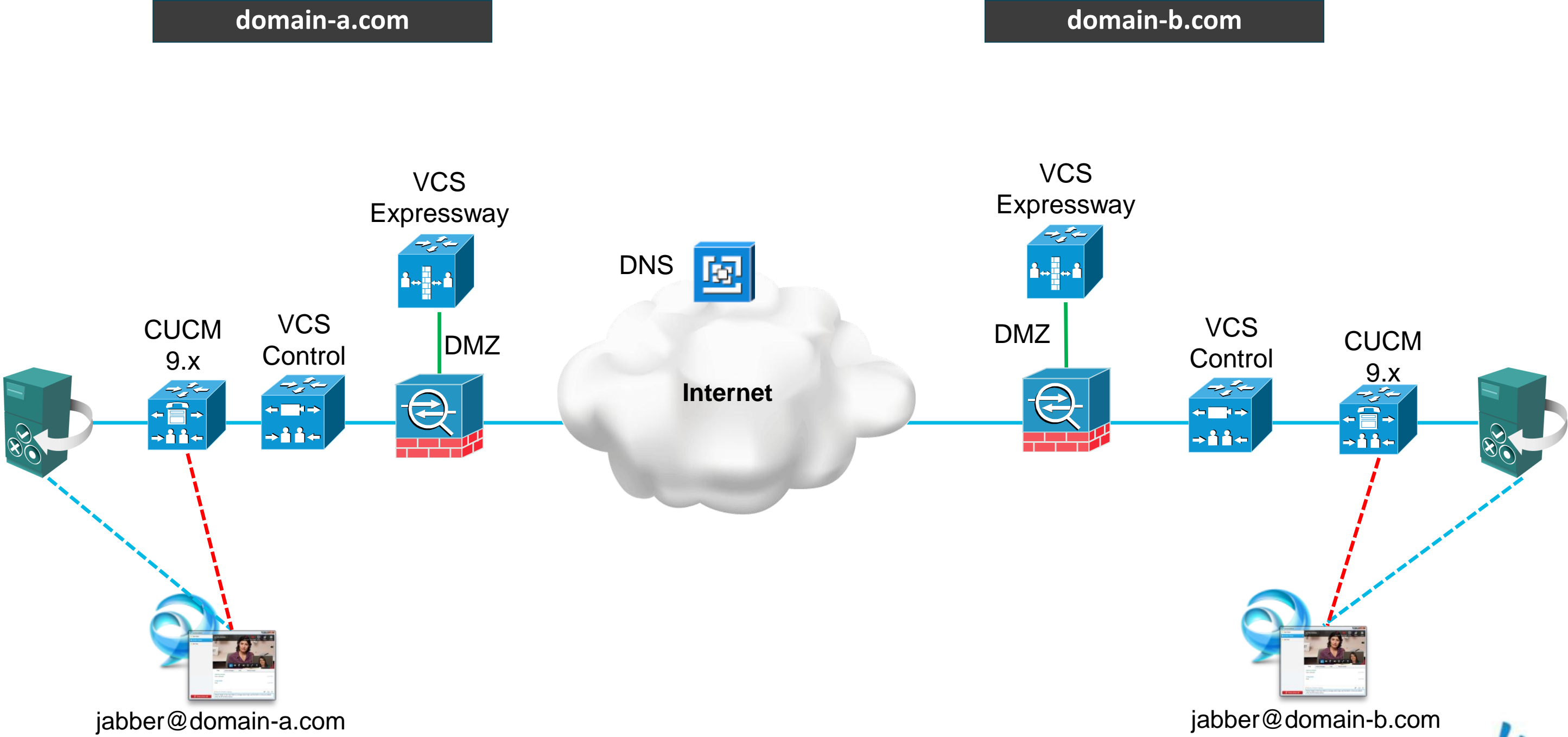
# Scenario 1

## CUCM to Provide SIP Video / Voice Call Control



# Scenario 1

## VCS to Provide SIP Video / Voice Call Firewall Traversal



# Scenario 1

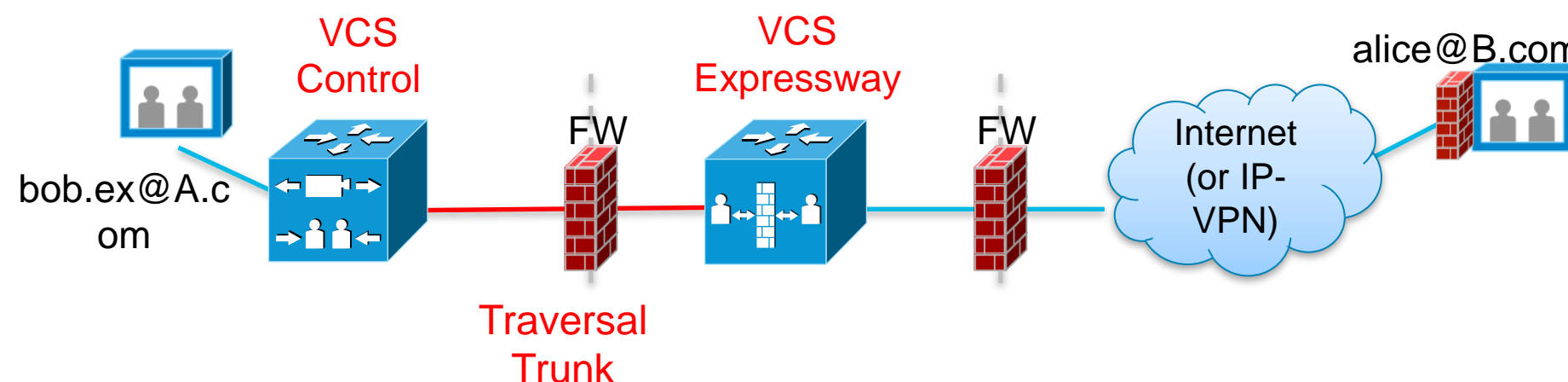
## Major Implementation Steps for Video/Voice Federation

### 1. SIP trunk between CUCM and VCS Control

- ✓ CUCM: Route foreign domain calls from CUCM to VCS Control
- ✓ VCS: Route local domain but not locally registered calls to CUCM

### 2. Traversal Trunk between VCS Control and VCS Expressway

- ✓ [http://www.cisco.com/en/US/docs/telepresence/infrastructure/vcs/config\\_guide/Cisco\\_VCS\\_Basic\\_Configuration\\_Control\\_with\\_Expressway\\_Deployment\\_Guide\\_X7-2.pdf](http://www.cisco.com/en/US/docs/telepresence/infrastructure/vcs/config_guide/Cisco_VCS_Basic_Configuration_Control_with_Expressway_Deployment_Guide_X7-2.pdf)

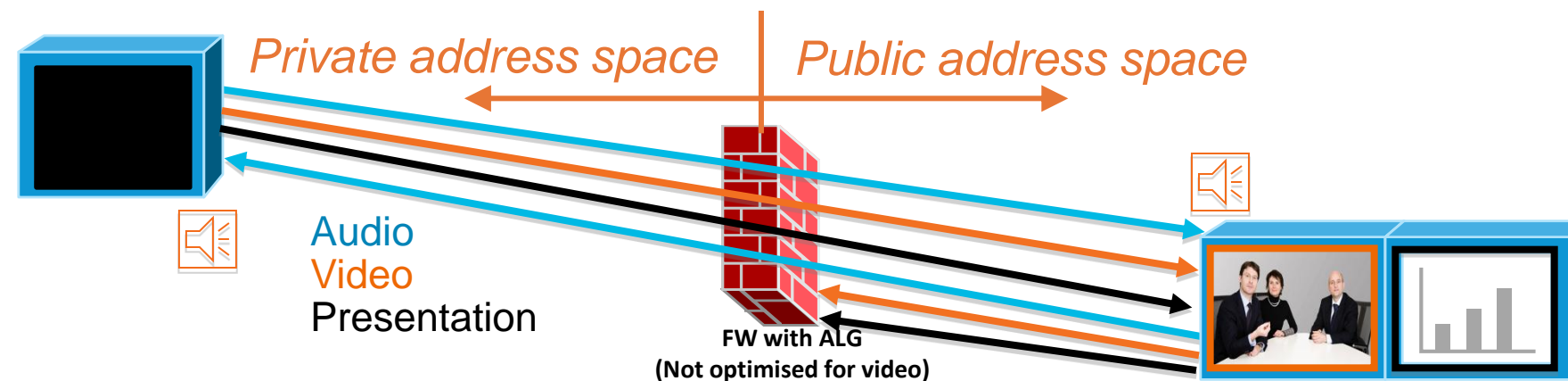


# Scenario 1

## Major Implementation Steps for Video/Voice Federation - continued

### 3. Firewall configuration

- ✓ [http://www.cisco.com/en/US/docs/telepresence/infrastructure/vcs/config\\_guide/Cisco\\_VCS\\_IP\\_Port\\_Usage\\_for\\_Firewall\\_Traversal\\_Deployment\\_Guide\\_X7-2.pdf](http://www.cisco.com/en/US/docs/telepresence/infrastructure/vcs/config_guide/Cisco_VCS_IP_Port_Usage_for_Firewall_Traversal_Deployment_Guide_X7-2.pdf)
- ✓ Some firewalls' ALG function for SIP / H.323 interfere with video FW traversal
- ✓ Try turning off ALG for SIP/H.323 protocols on FW





# Scenario 1

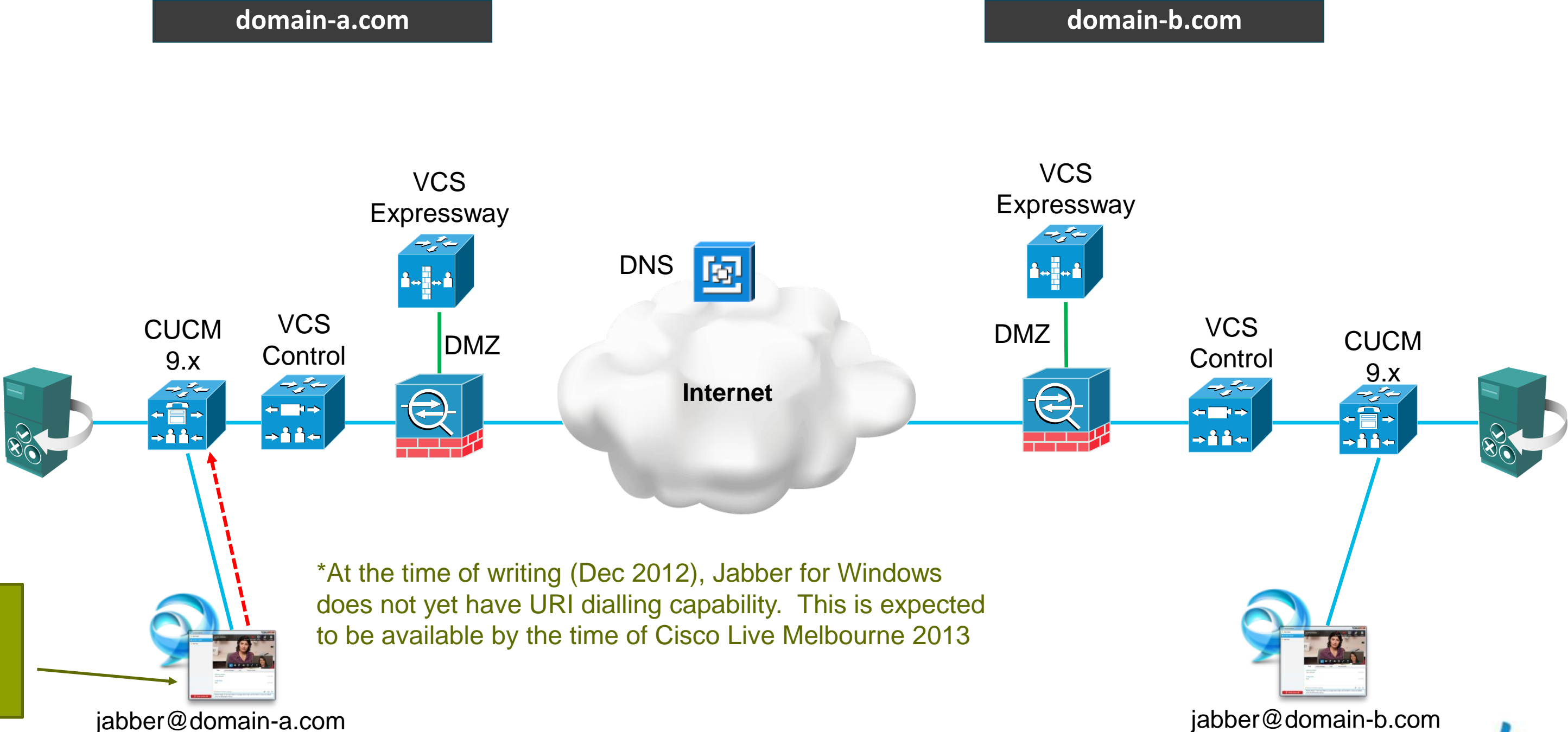
## Major Implementation Steps for Video/Voice Federation - continued

### 4. DNS SRV record for VCS Expressway

Service	Protocol	Host	Port	Notes
h323cs	tcp	_h323cs._tcp.example.com	1720	
h323ls	udp	_h323ls._udp.example.com	1719	
sip	tcp	_sip._tcp.example.com	5060	
sip	udp	_sip._udp.example.com	5060	
sips	tcp	_sips._tcp.example.com	5061	
sips	tls	_sips._tls.example.com	5061	For E20 TE2.1
sip	tls	_sip._tls.example.com	5061	For MXP F8.2, T150 L6.0, Movi prior to version 3.1
turn	udp	_turn._udp.example.com	3478	Should match port setting on VCS configuration > Expressway > TURN

# Scenario 1

## How Video / Voice Calls Work



(1) User dials\* jabber@domain-b.com, SIP invite goes to CUCM

jabber@domain-a.com

jabber@domain-b.com



# Scenario 1

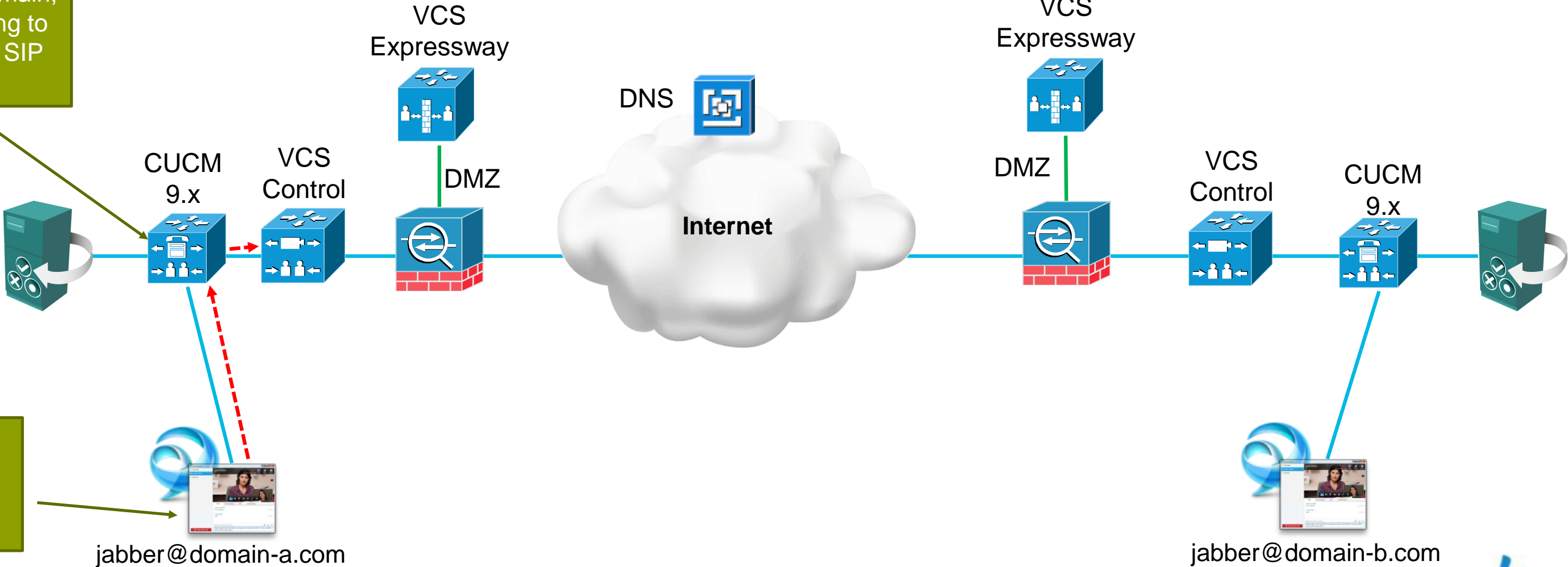
## How Video / Voice Calls Work

domain-a.com

domain-b.com

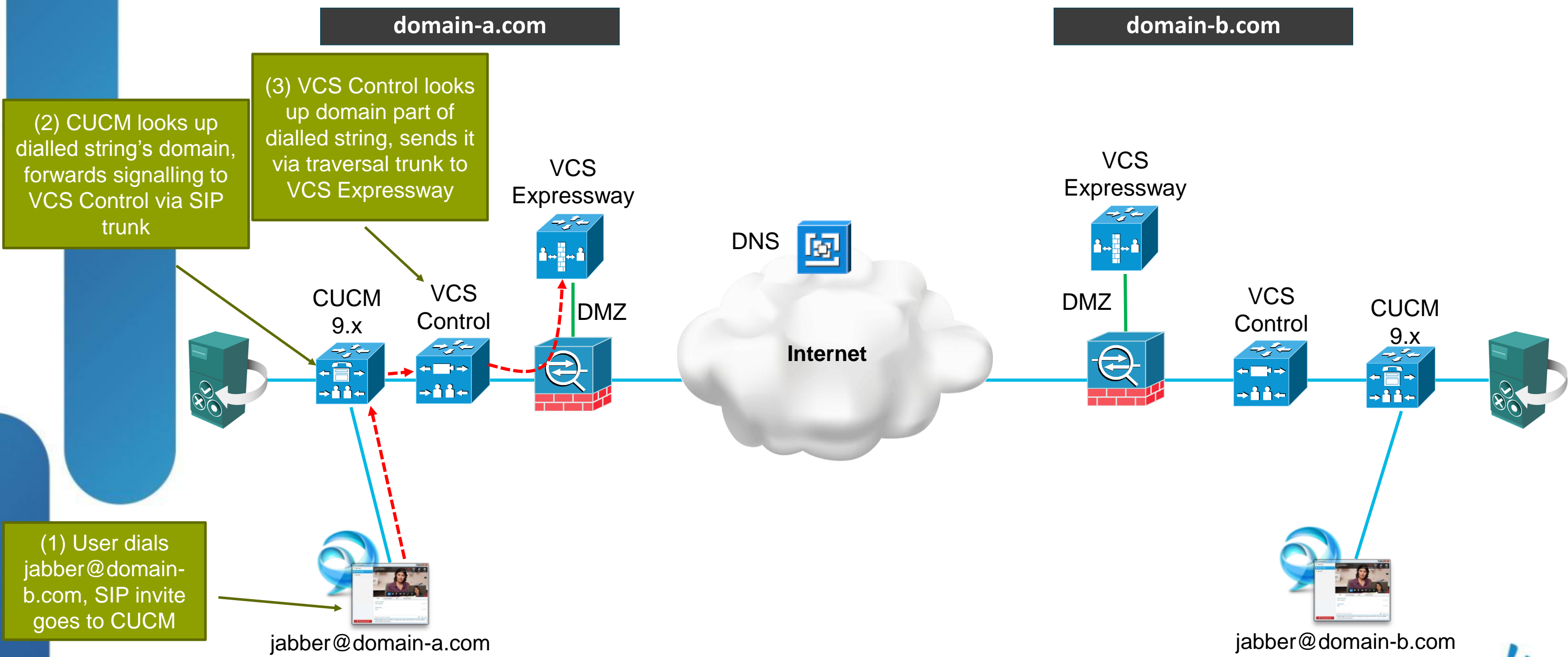
(2) CUCM looks up dialled string's domain, forwards signalling to VCS Control via SIP trunk

(1) User dials jabber@domain-b.com, SIP invite goes to CUCM



# Scenario 1

## How Video / Voice Calls Work



(2) CUCM looks up dialled string's domain, forwards signalling to VCS Control via SIP trunk

(3) VCS Control looks up domain part of dialled string, sends it via traversal trunk to VCS Expressway

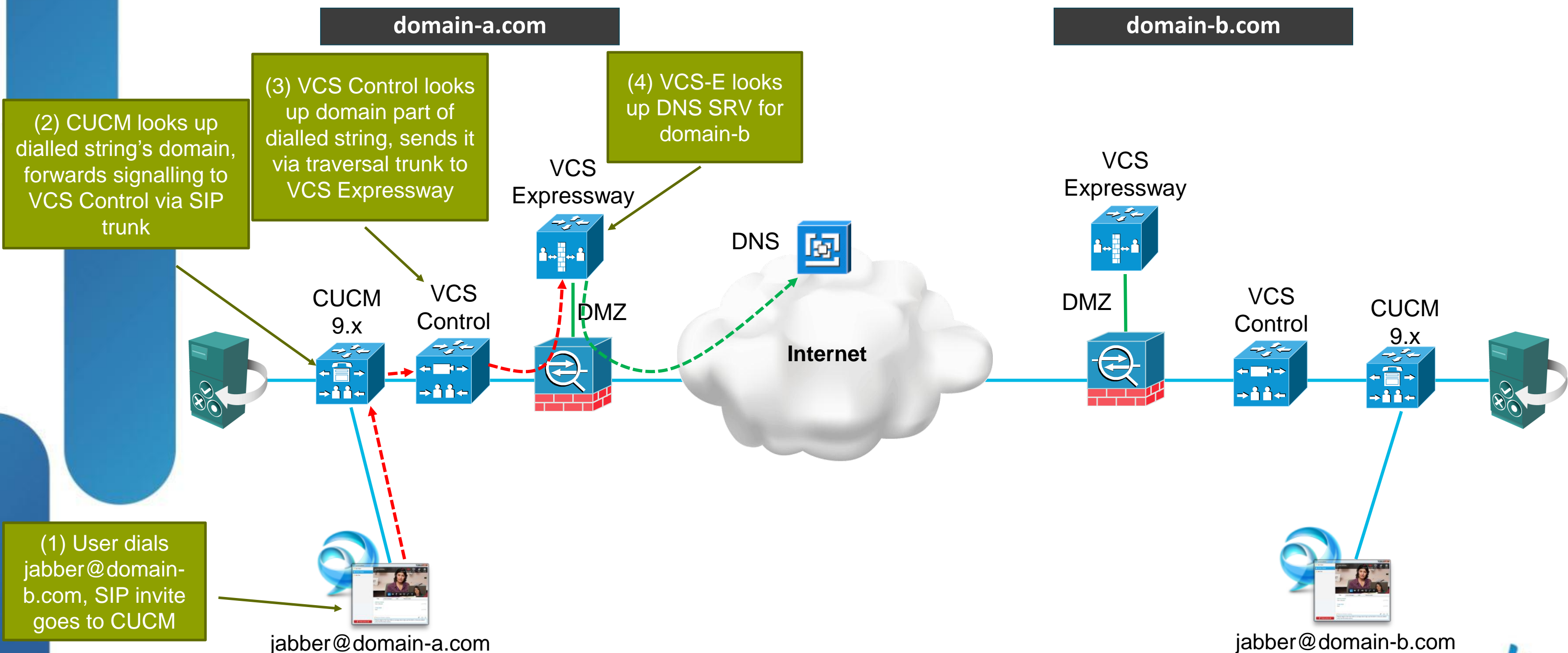
(1) User dials jabber@domain-b.com, SIP invite goes to CUCM

jabber@domain-a.com

jabber@domain-b.com

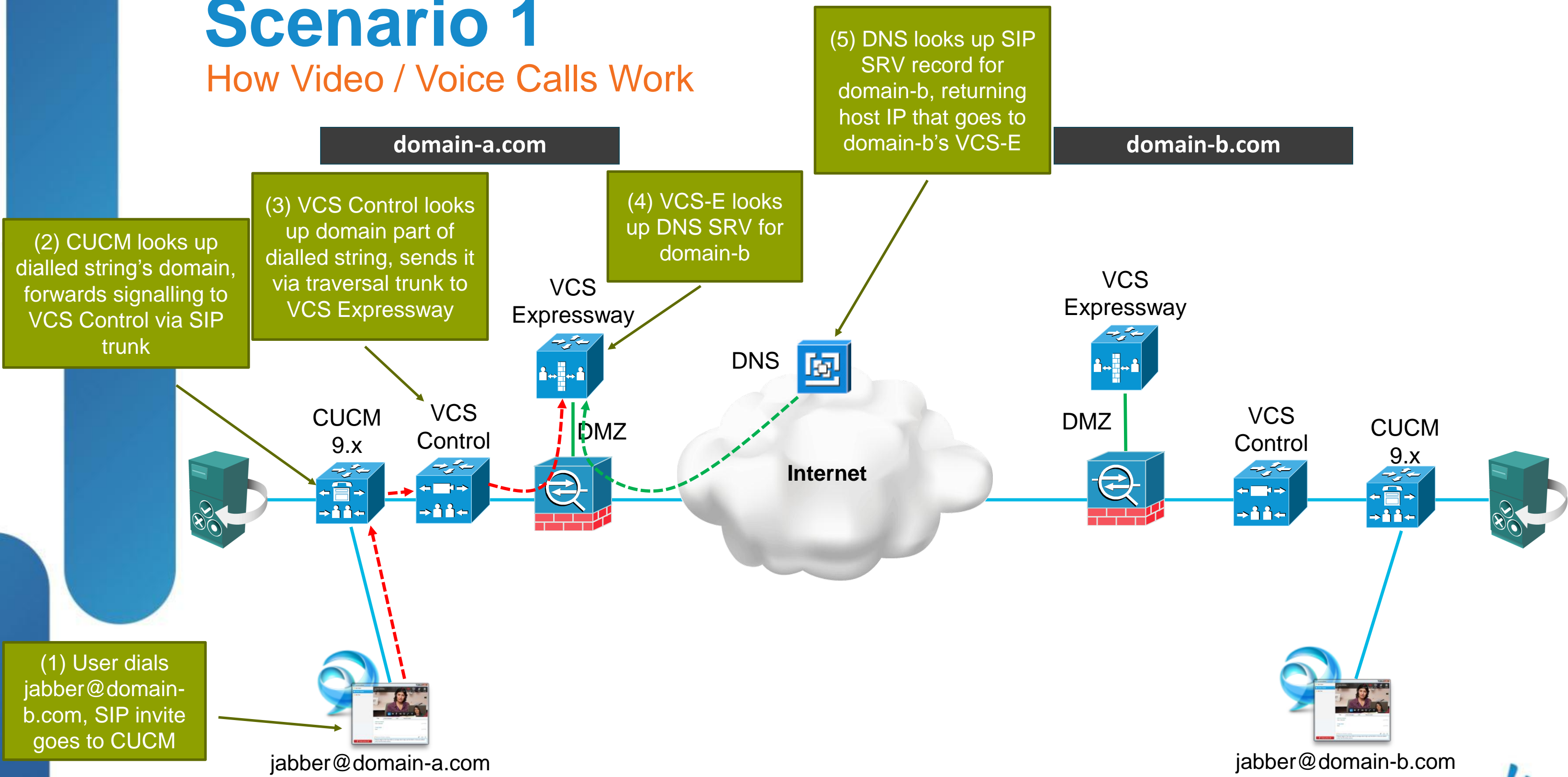
# Scenario 1

## How Video / Voice Calls Work



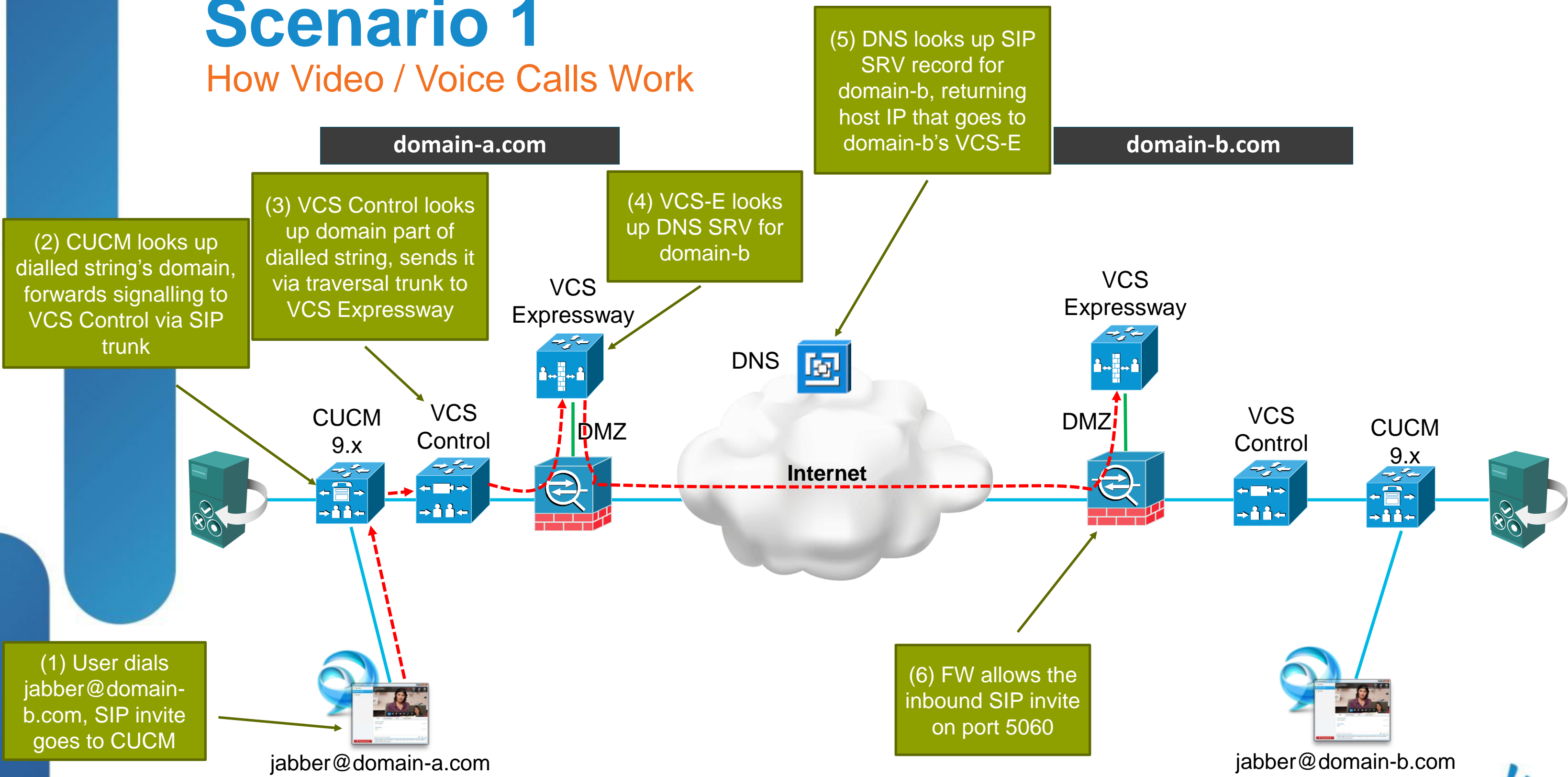
# Scenario 1

## How Video / Voice Calls Work



# Scenario 1

## How Video / Voice Calls Work



(1) User dials jabber@domain-b.com, SIP invite goes to CUCM

(2) CUCM looks up dialled string's domain, forwards signalling to VCS Control via SIP trunk

domain-a.com

(3) VCS Control looks up domain part of dialled string, sends it via traversal trunk to VCS Expressway

(4) VCS-E looks up DNS SRV for domain-b

(5) DNS looks up SIP SRV record for domain-b, returning host IP that goes to domain-b's VCS-E

domain-b.com

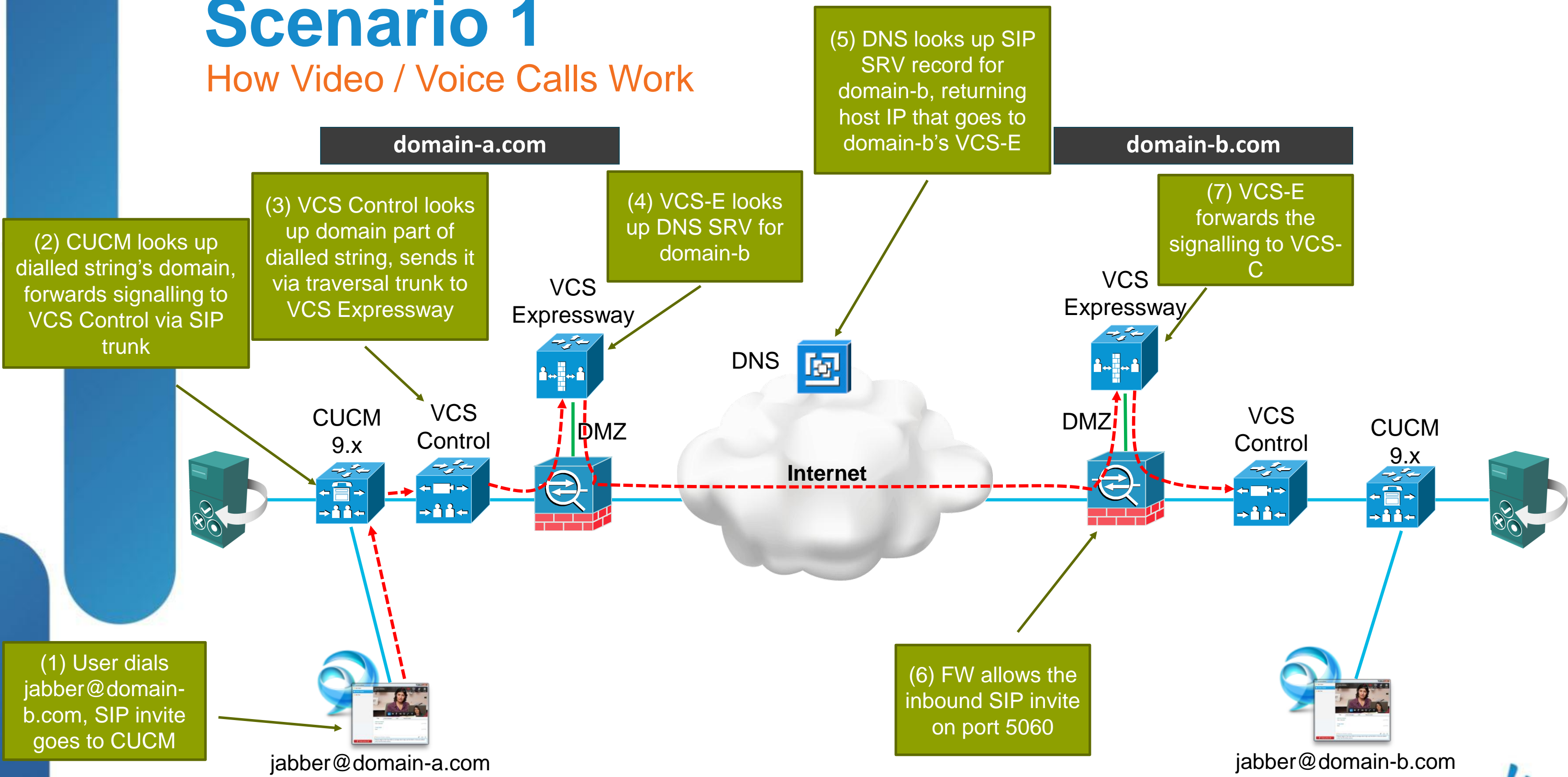
(6) FW allows the inbound SIP invite on port 5060

jabber@domain-a.com

jabber@domain-b.com

# Scenario 1

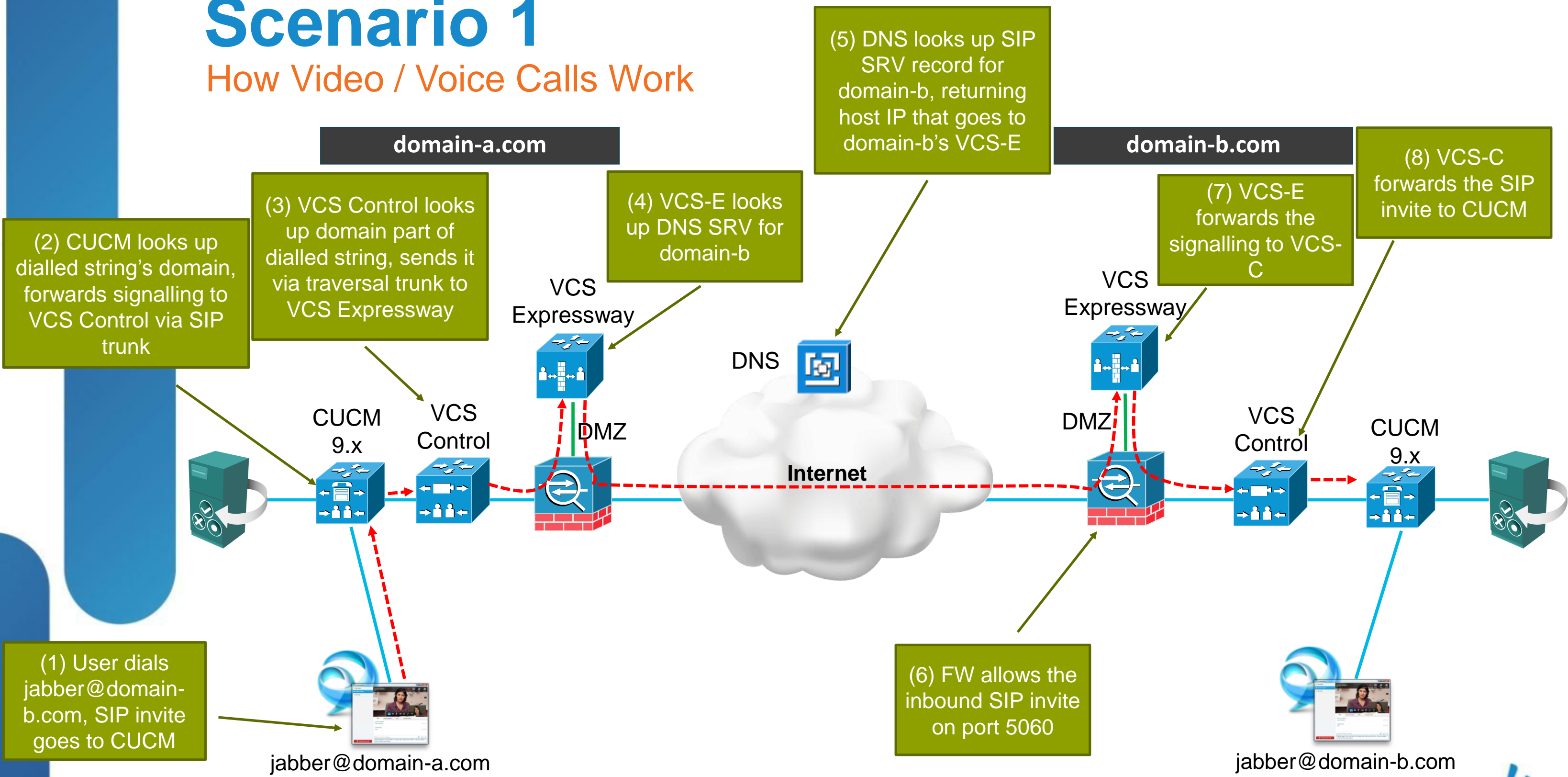
## How Video / Voice Calls Work





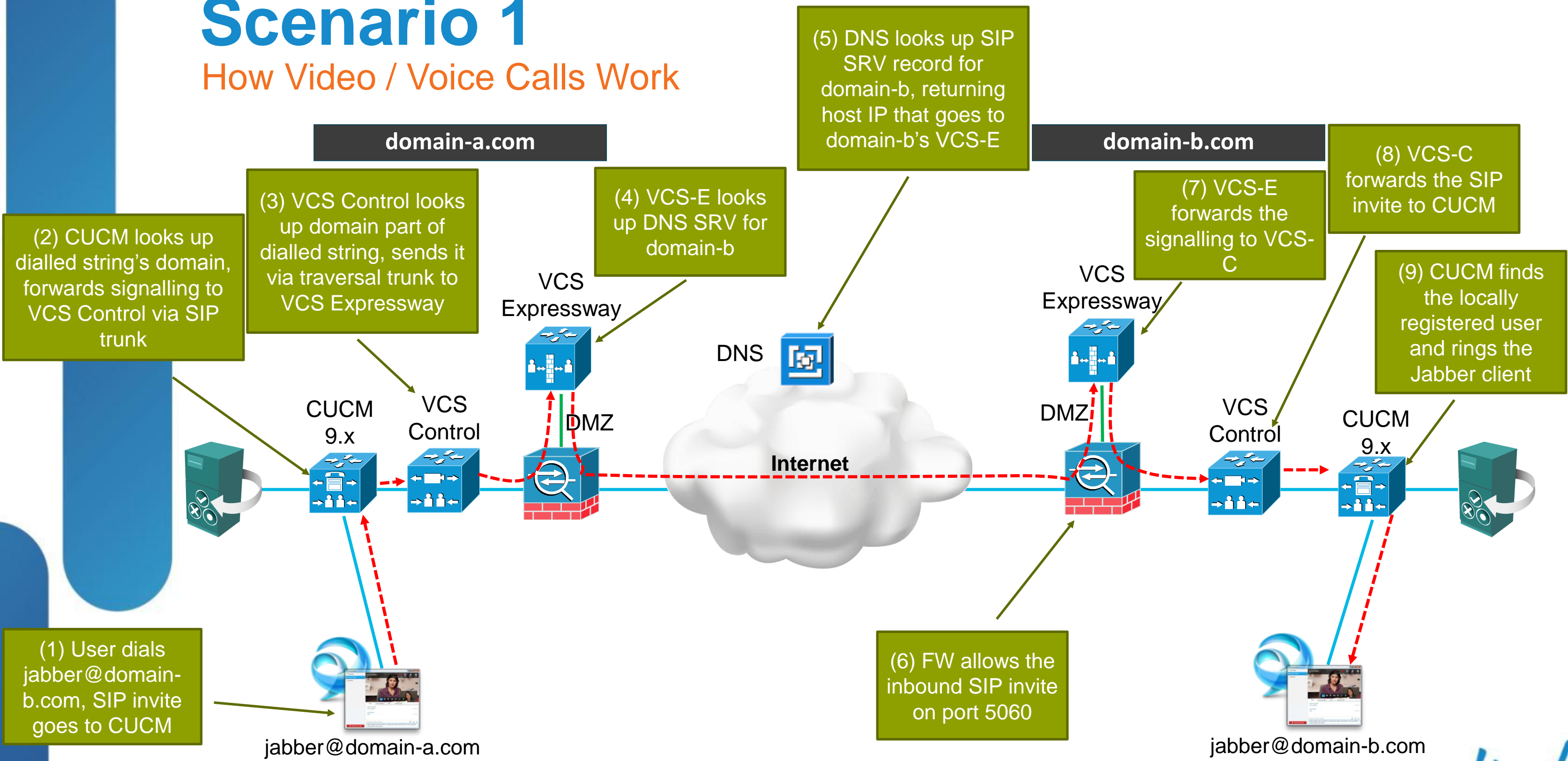
# Scenario 1

## How Video / Voice Calls Work



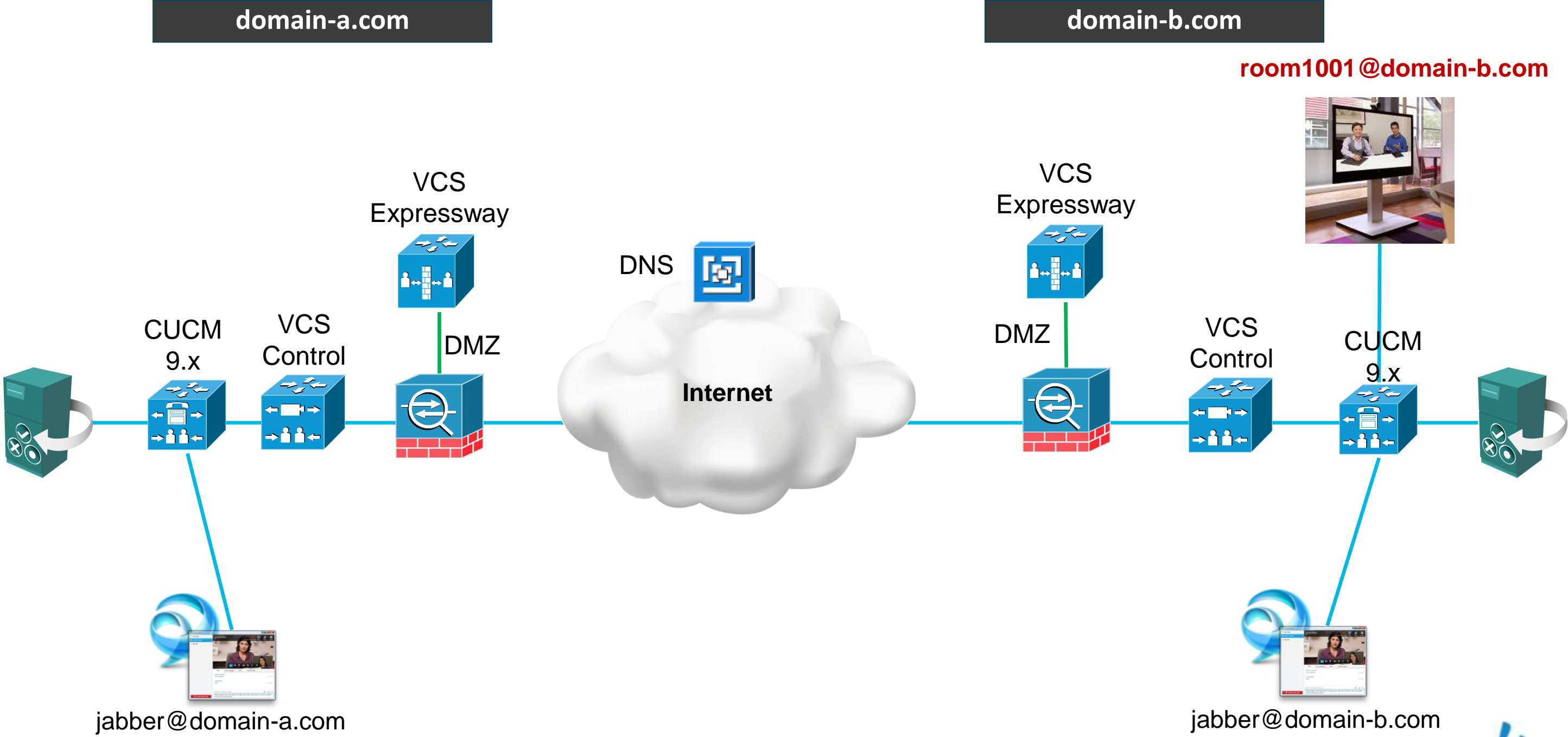
# Scenario 1

## How Video / Voice Calls Work



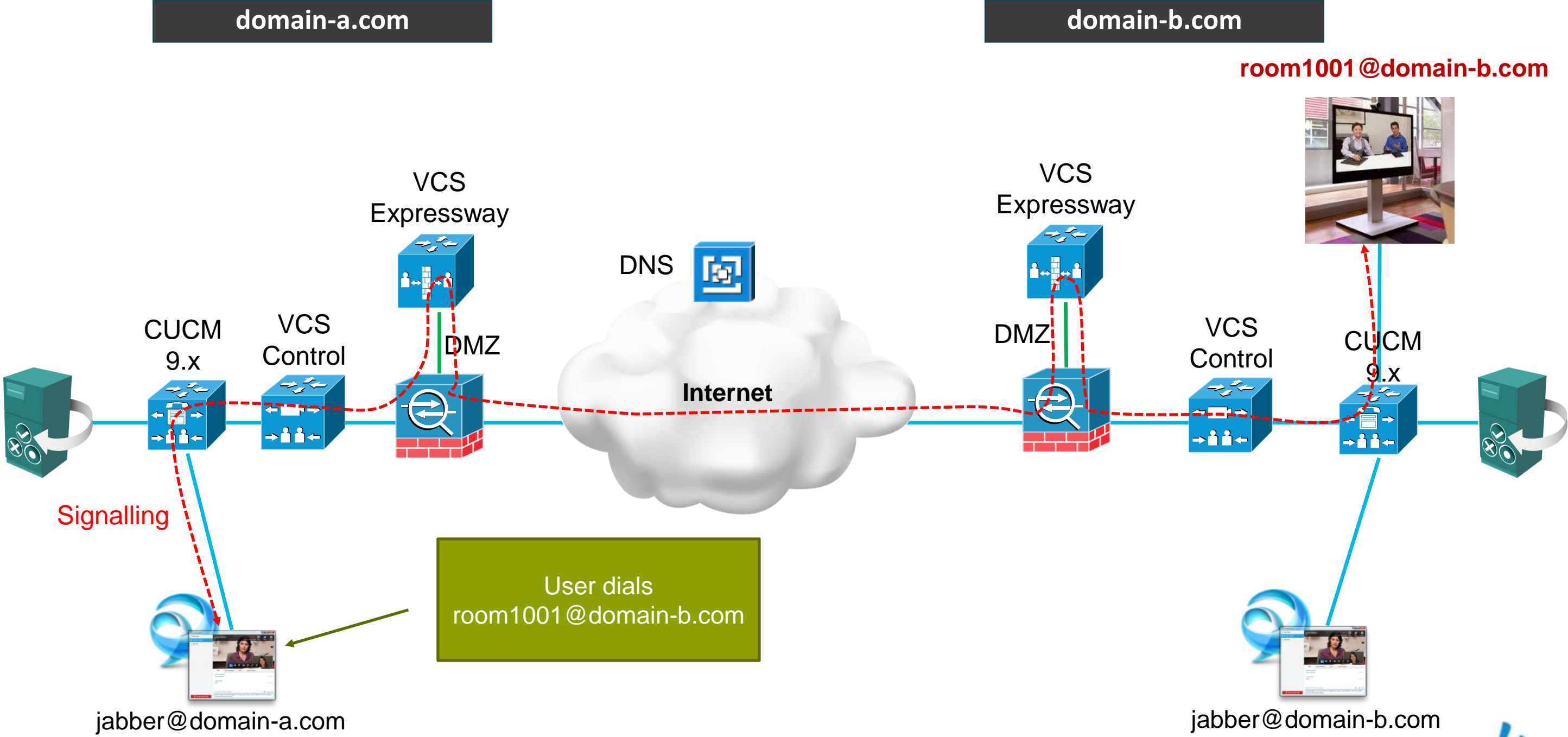
# Scenario 1

## Jabber to Federated Group Video Systems



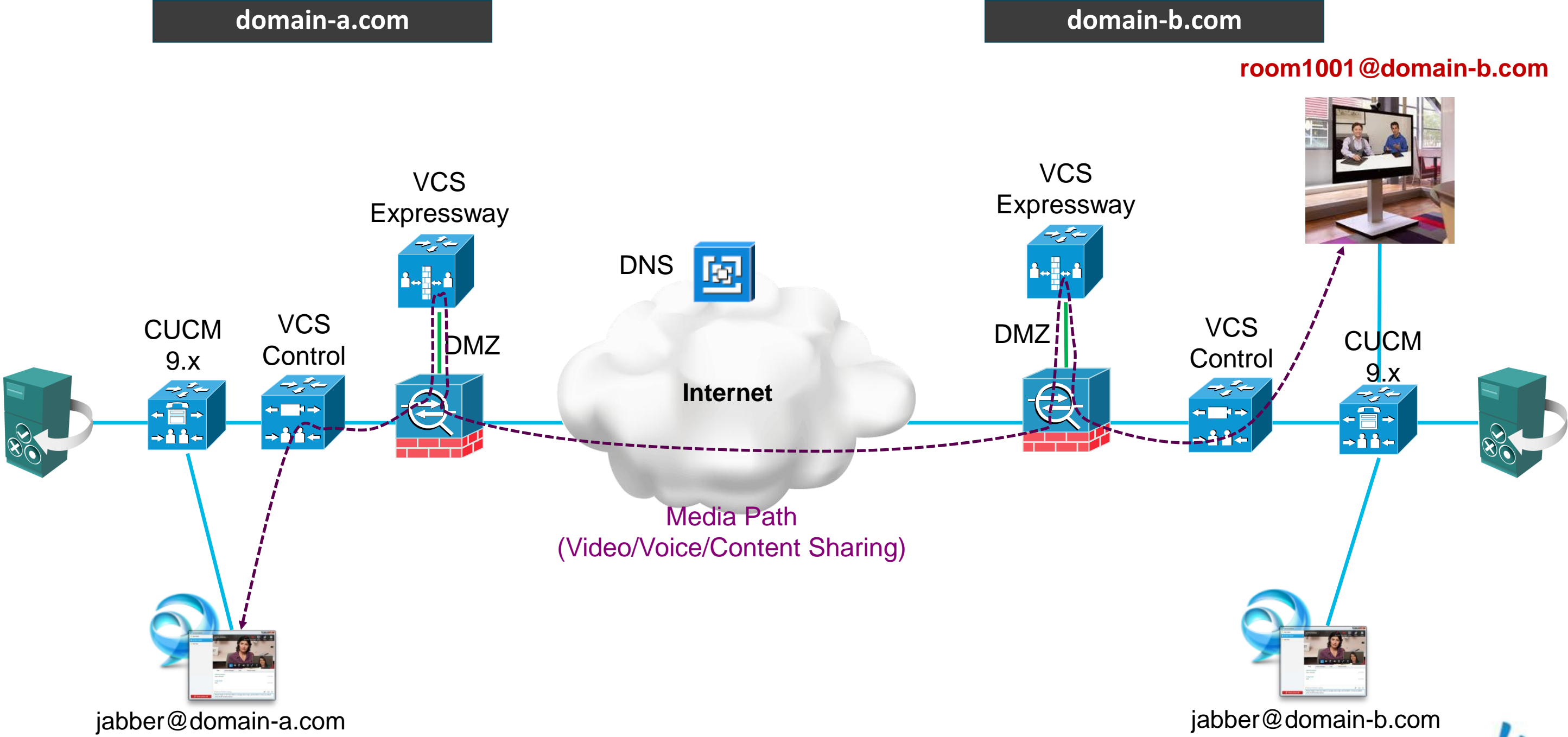
# Scenario 1

## Jabber to Federated Group Video Systems – Signalling Path



# Scenario 1

## Jabber to Federated Group Video Systems – Media Path



## Fundamentals

Scenario 1: Inter-Domain Federation to Jabber

**Scenario 2: Inter-Domain Federation to Lync**

Scenario 3: Inter-Domain Federation to Public IM

Scenario 4: Intra-Domain Federation between Jabber & Lync

Scenario 5: Cloud WebEx Messenger Inter-Domain Federation



# Scenario 2

## Inter-Domain B2B Federation to Lync

### On-Prem IM/Presence

Jabber Users



Video / Voice



Internet

### B2B Federation to Lync

Lync Users



# Scenario 2: Two Options

## Inter-Domain B2B Federation to Lync

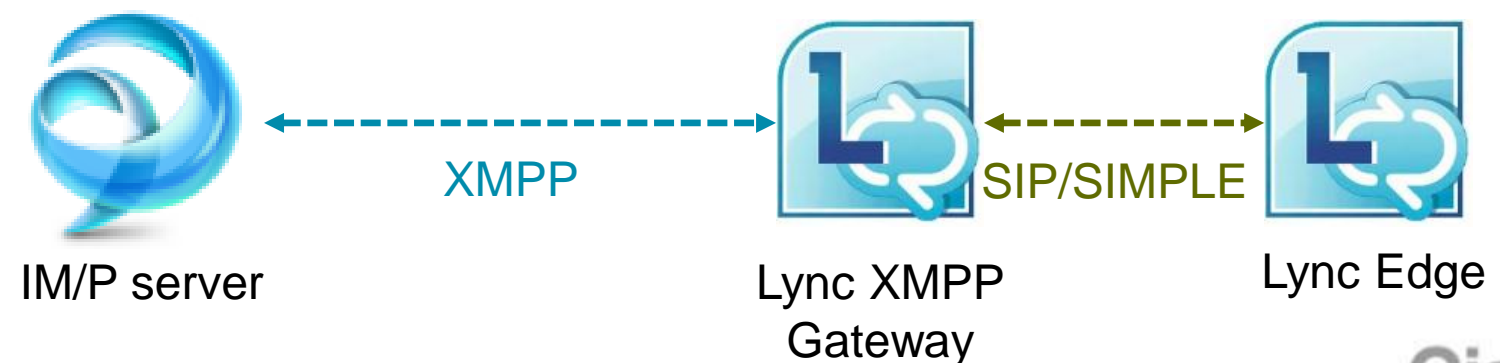
### 1. IM and Presence server to use SIP/SIMPLE on the Jabber side

- ✓ Most likely scenario
- ✓ Explained in subsequent slides



### 2. Deploy Lync XMPP gateway on the Lync side

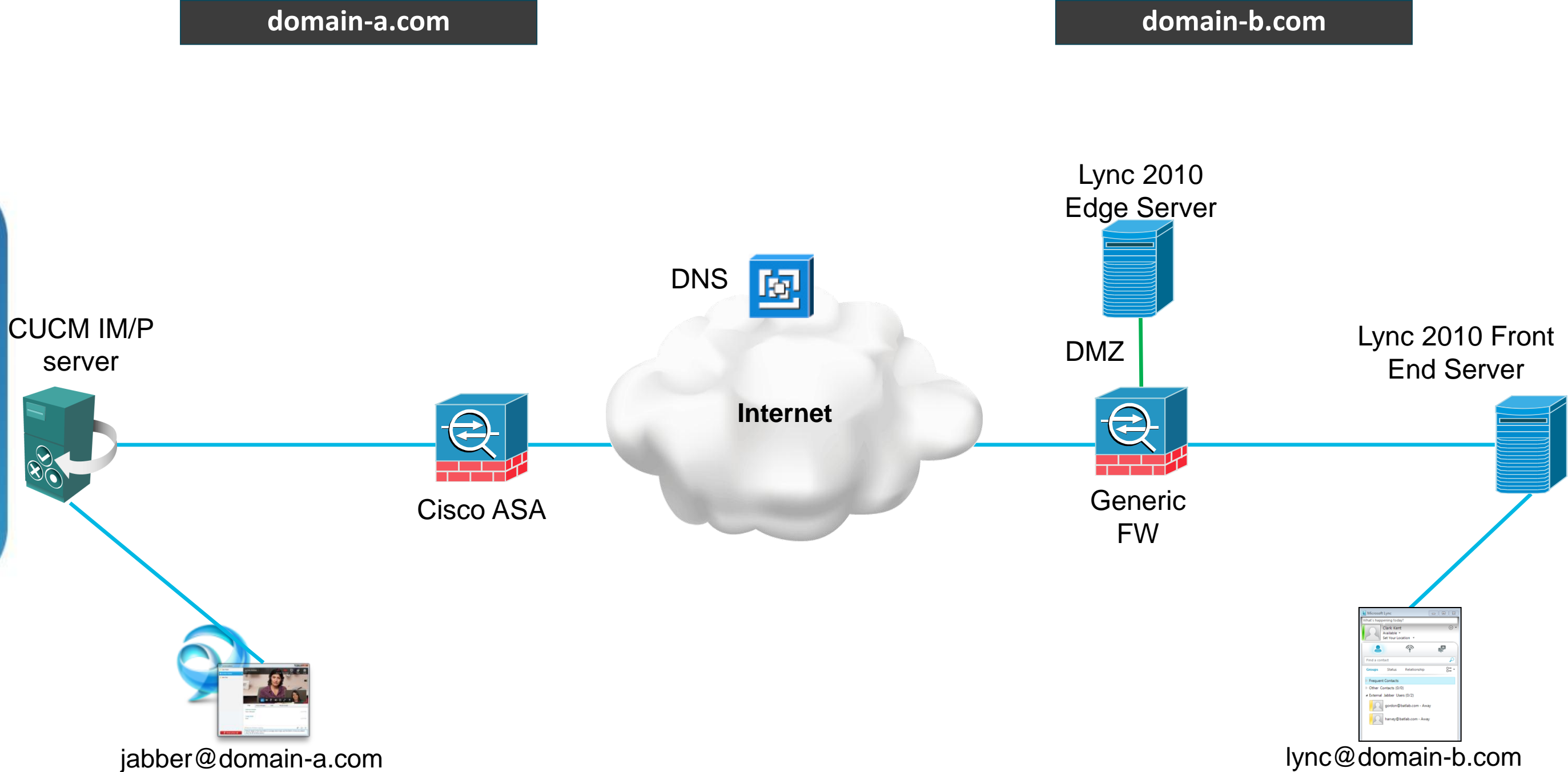
- ✓ Not many Lync deployments use the XMPP gateway
- ✓ Federation configuration almost identical to Scenario 1 (not covered)





# Scenario 2

## Key Components for Federation to Lync

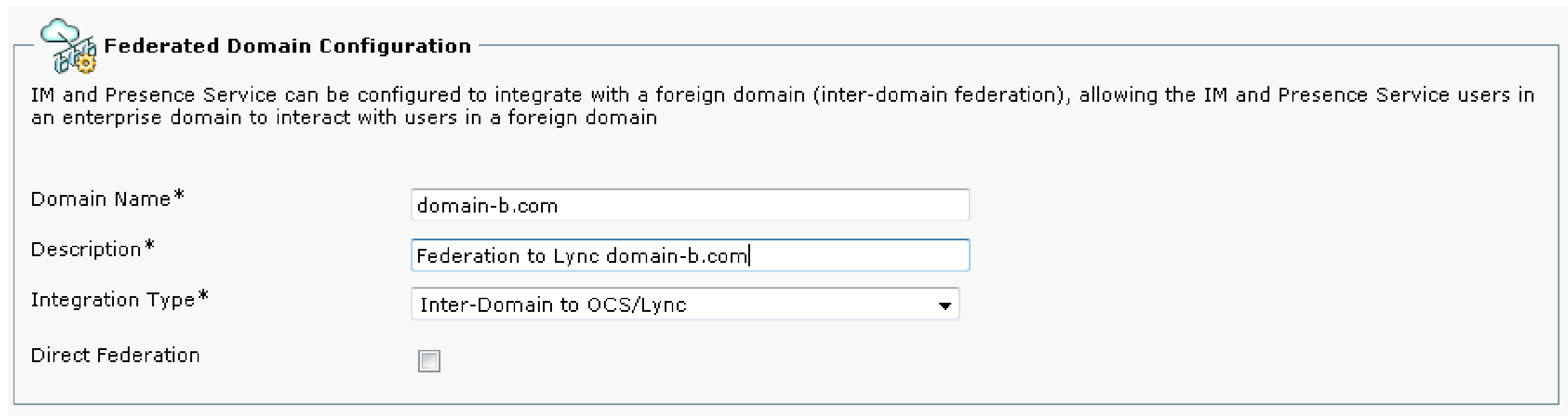


# Scenario 2

## Major Implementation Steps for IM/Presence Federation to Lync

### 1. Configure IM and Presence for SIP Federation (Lync)

- ✓ Cisco Unified CM IM and Presence Administration > Presence > Inter Domain Federation > SIP Federation > Add New
- ✓ Enter the federated domain name: e.g. **domain-b.com**



**Federated Domain Configuration**

IM and Presence Service can be configured to integrate with a foreign domain (inter-domain federation), allowing the IM and Presence Service users in an enterprise domain to interact with users in a foreign domain

Domain Name\*

Description\*

Integration Type\*

Direct Federation

# Scenario 2

## Major Implementation Steps for IM/Presence Federation to Lync (Continued)

### 2. Configure Cisco ASA TLS Proxy for SIP federation

- ✓ ASA acts as TLS proxy between IM and Presence server and Lync Edge server
- ✓ UC wizard on ASA for single IM/P server:  
[http://docwiki.cisco.com/wiki/Cisco\\_Unified\\_Presence%2C\\_Release\\_8.x](http://docwiki.cisco.com/wiki/Cisco_Unified_Presence%2C_Release_8.x)

Severity	Date	Time	Syslog ID	Source IP	Source	Destination IP	Destination	Description
6	Oct 18 2010	21:54:56	110003	10.53.46.213	514	144.254.86.184	514	Routing failed to locate next hop for udp from NP Identity 3f:c:10.53.46.213/514 to inside:144.254.86.184/514
6	Oct 18 2010	21:54:56	302015	10.53.46.139	138	10.53.46.255	138	Built outbound UDP connection 3392 for outside:10.53.46.255/138 (10.53.46.255/138) to inside:10.53.46.139/138 (10.53.46.205/118)
6	Oct 18 2010	21:54:56	305011	10.53.46.139	138	10.53.46.205	118	Built dynamic UDP translation from inside:10.53.46.139/138 to outside:10.53.46.205/118

# Scenario 2

## Major Implementation Steps for IM/Presence Federation to Lync (Continued)

### 3. DNS configuration for SIP federation

- ✓ Create a DNS SRV record to advertise the SIP/SIMPLE domain
- ✓ `_sipfederationtls._tcp.<IM_Presence_domain>` over port 5061
- ✓ SRV points to the host whose FQDN resolves to the ASA's public IP address

SRV service type:  
\_sipfederationtls

SIP protocol  
port number  
(5061)

FQDN of host offering SIP  
\_sipfederationtls.\_tcp service

**\_sipfederationtls Properties**

Service Location (SRV)

Domain: test.com

Service: \_sipfederationtls

Protocol: \_tcp

Priority: 0

Weight: 0

Port number: 5061

Host offering this service:  
host.test.com

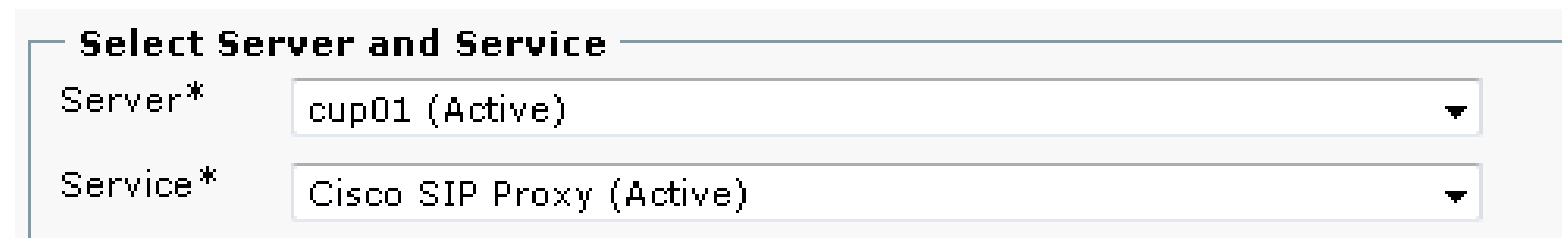
OK Cancel Apply

# Scenario 2

## Major Implementation Steps for IM/Presence Federation to Lync (Continued)

### 4. Configure SIP federation routing parameter

- ✓ Cisco Unified CM IM and Presence Administration > System > Service Param.



**Select Server and Service**

Server\*

Service\*

- ✓ Enter the public FQDN value that corresponds to the DNS SRV entry



**Federation Routing Parameters (Clusterwide)**

Federation Routing IM/P FQDN \*

Default Federation Routing Domain \*

# Scenario 2

## Major Implementation Steps for IM/Presence Federation to Lync (Continued)

### 5. Security Certificate exchange between IM/P and Lync Edge

- ✓ <http://technet.microsoft.com/en-us/library/gg398409.aspx>
- ✓ Mutual TLS authentication between IM/P and Lync Edge server
- ✓ Skip section 2 and go to section 3 in above guide
- ✓ Configure Lync Edge server to support public IM connectivity

# Scenario 2

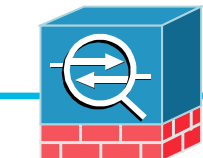
## Protocol Flow for Jabber IM/P Federation to Lync

domain-a.com

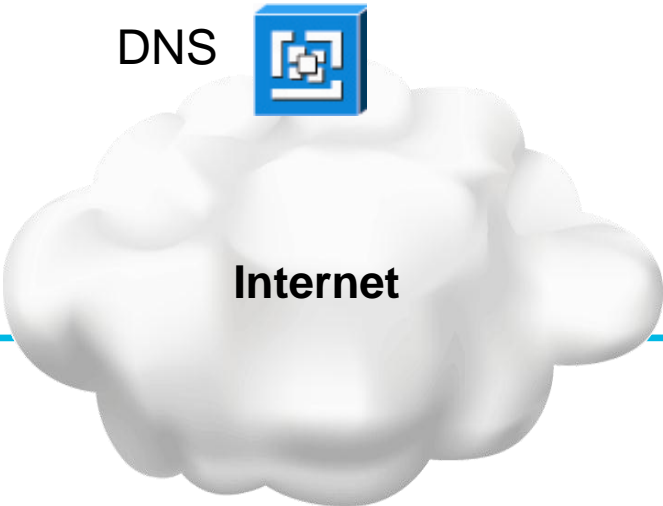
domain-b.com

1. SIP profile configured on IM/P server

CUCM IM/P server



Cisco ASA



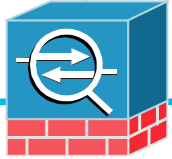
DNS

Internet

Lync 2010 Edge Server



DMZ

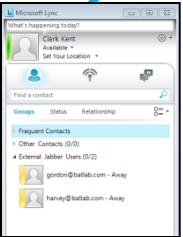


Generic FW

Lync 2010 Front End Server



jabber@domain-a.com



lync@domain-b.com

# Scenario 2

## Protocol Flow for Jabber IM/P Federation to Lync

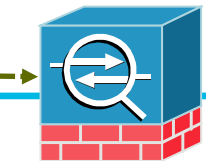
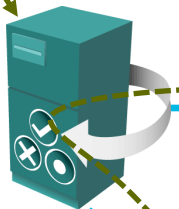
domain-a.com

domain-b.com

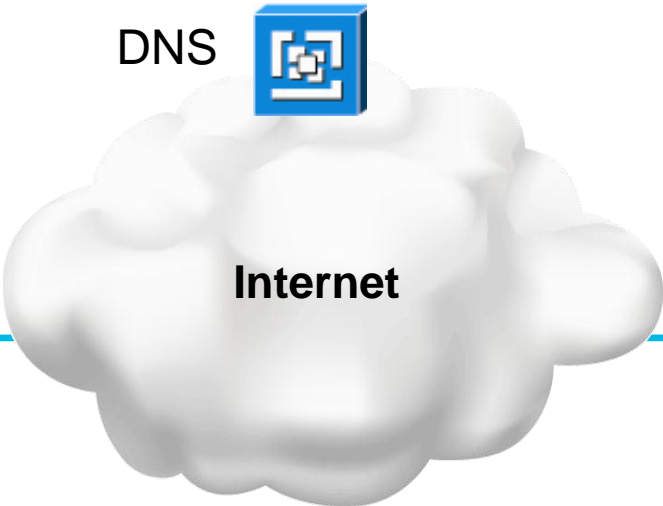
1. SIP profile configured on IM/P server

2. SIP TLS initiated by IM/P server towards federated domain

CUCM IM/P server



Cisco ASA



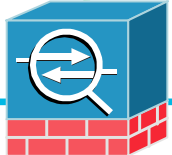
DNS

Internet

Lync 2010 Edge Server



DMZ

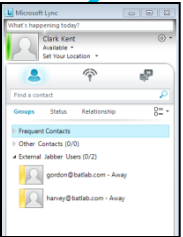


Generic FW

Lync 2010 Front End Server



jabber@domain-a.com



lync@domain-b.com



# Scenario 2

## Protocol Flow for Jabber IM/P Federation to Lync

domain-a.com

domain-b.com

1. SIP profile configured on IM/P server

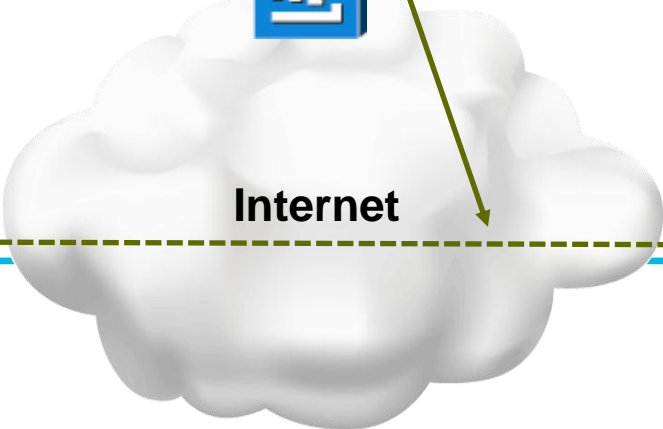
2. SIP TLS initiated by IM/P server towards federated domain

4. SIP TLS proxied by ASA to Lync Edge

3. SIP TLS is proxied by ASA

CUCM IM/P server

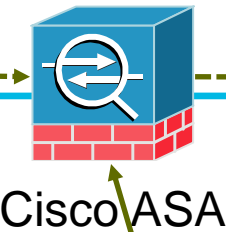
DNS



Lync 2010 Edge Server

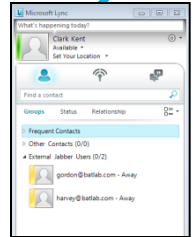
DMZ

Lync 2010 Front End Server



jabber@domain-a.com

lync@domain-b.com



# Scenario 2

## Protocol Flow for Jabber IM/P Federation to Lync

domain-a.com

domain-b.com

1. SIP profile configured on IM/P server

2. SIP TLS initiated by IM/P server towards federated domain

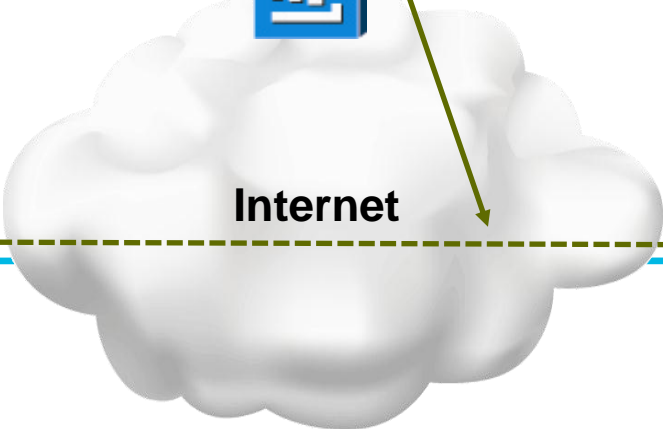
4. SIP TLS proxied by ASA to Lync Edge

5. IM/P server for domain-a.com is an authorised public IM host on Lync Edge server

6. TLS success, message reaches federated side

CUCM IM/P server

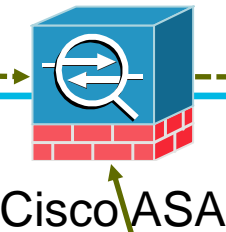
DNS



Lync 2010 Edge Server

DMZ

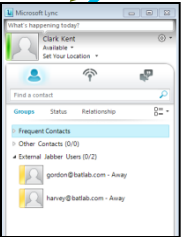
Lync 2010 Front End Server



jabber@domain-a.com

3. SIP TLS is proxied by ASA

lync@domain-b.com



# Presence Mappings

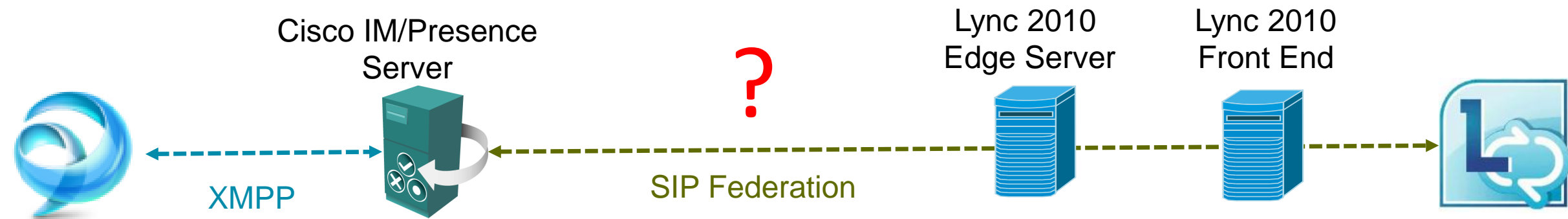
## Jabber and Lync

Jabber State	Lync View
Available	Available
Busy	Busy
On the Phone	Busy
Meeting	Busy
Away	Away
Do Not Disturb	Busy
Offline	Offline
Offline - On the Phone	Offline
Offline - Meeting	Offline
Offline - Out Of Office	Offline

Lync State	Jabber View
Available	Available
Away	Away
Be Right Back	Away
Busy	Busy
Do Not Disturb	Busy
Offline	Offline

# Scenario 2

## How about Video / Voice Calls?

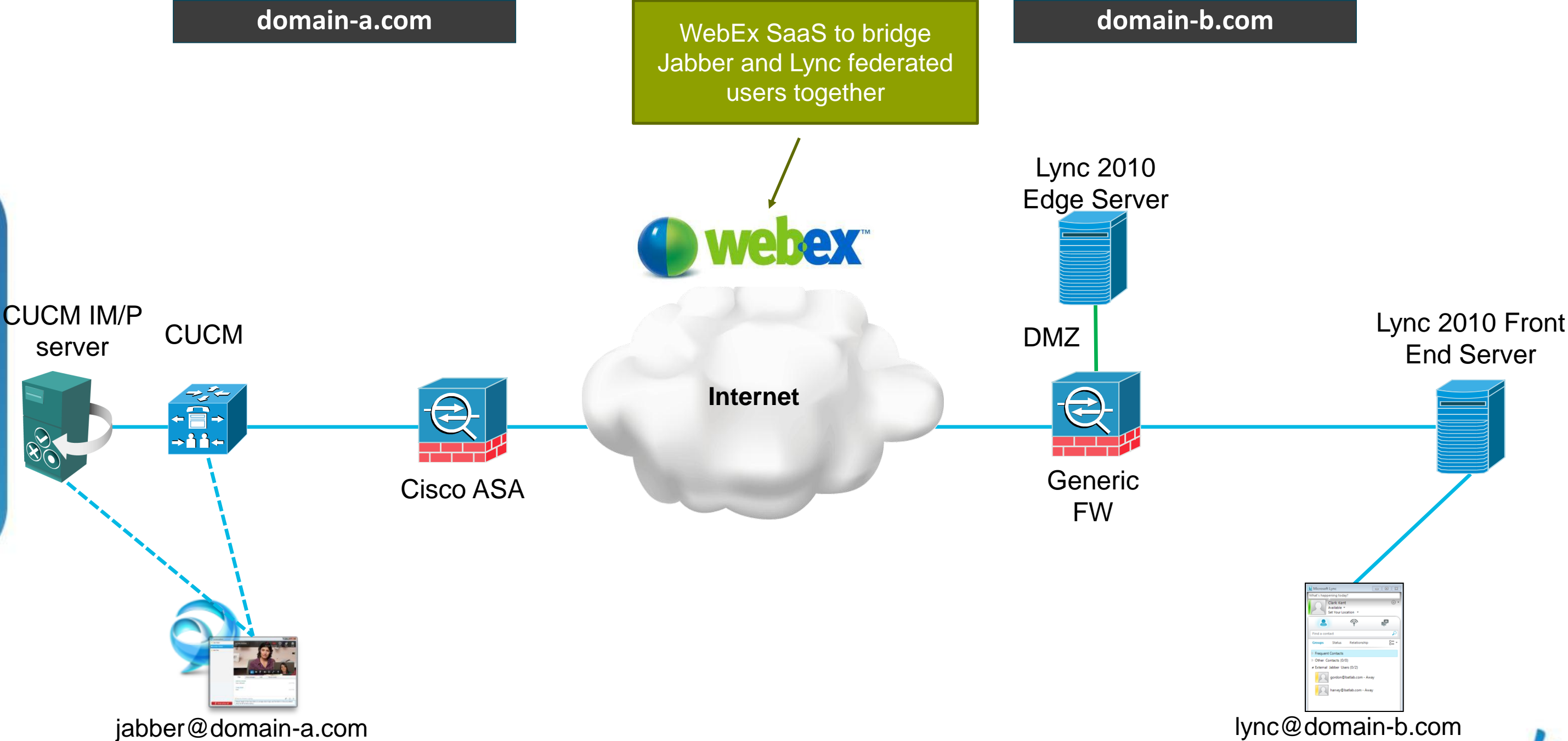


## Two challenges

1. Lync 2010 **public IM** federation (e.g. to non-Lync) only supports **IM**
2. Incompatible video codecs
  - Jabber supports H.264/AVC
  - Lync 2010 supports Microsoft RTV, and H.263

# Scenario 2

## Adding Video / Voice and Web Conferencing Capability



# Scenario 2

## Major Implementation Steps for Federated UC Workloads to Lync

### 1. Configure new UC Profile for WebEx on CUCM

- ✓ Cisco Unified CM Administration > User Management > User Settings > UC Service > Add New > Select “Conferencing” type
- ✓ Add the WebEx site to the Conferencing UC Service

Select “WebEx (Conferencing)” as the Product Type

Populate the WebEx site names and FQDN details

The screenshot displays the 'UC Service Configuration' page in the Cisco Unified CM Administration console. The page title is 'UC Service Configuration' and the breadcrumb trail is 'Cisco Unified CM Administration > User Management > User Settings > UC Service > Add New'. The 'Add a UC Service' section is active, showing the following configuration details:

UC Service Type:	Conferencing
Product Type*	WebEx (Conferencing)
Name*	Test Site uc8sevtlab13.webex.com
Description:	https://uc8sevtlab13.webex.com/
Host Name/IP Address*	uc8sevtlab13.webex.com
Port:	443
Protocol:	HTTPS

Below the configuration fields, there is a checkbox labeled 'User web conference server as SSO identity provider' which is currently unchecked. At the bottom of the page, there is a note: '\* - indicates required item.'

# Scenario 2

## Major Implementation Steps for Federated UC Workloads to Lync

### 2. Modify the UC Service Profile assigned to users

- ✓ Cisco Unified CM Administration > User Management > User Settings > Service Profile > Select the appropriate service profile for users
- ✓ Associate the previously created conferencing service to the profile

Select the conferencing service previously created in the "Conferencing Profile" section

The screenshot displays the 'Service Profile Configuration' page in the Cisco Unified CM Administration interface. The page title is 'Service Profile Configuration' and the breadcrumb trail is 'Cisco Unified CM Administration > User Management > User Settings > Service Profile'. The 'Conferencing Profile' section is expanded, showing the following configuration:

Field	Value
Primary	Test Site uc8sevtlab13.webex.com
Secondary	<None>
Tertiary	<None>
Server Certificate Verification	Any
Credentials source for web conference service*	Not set

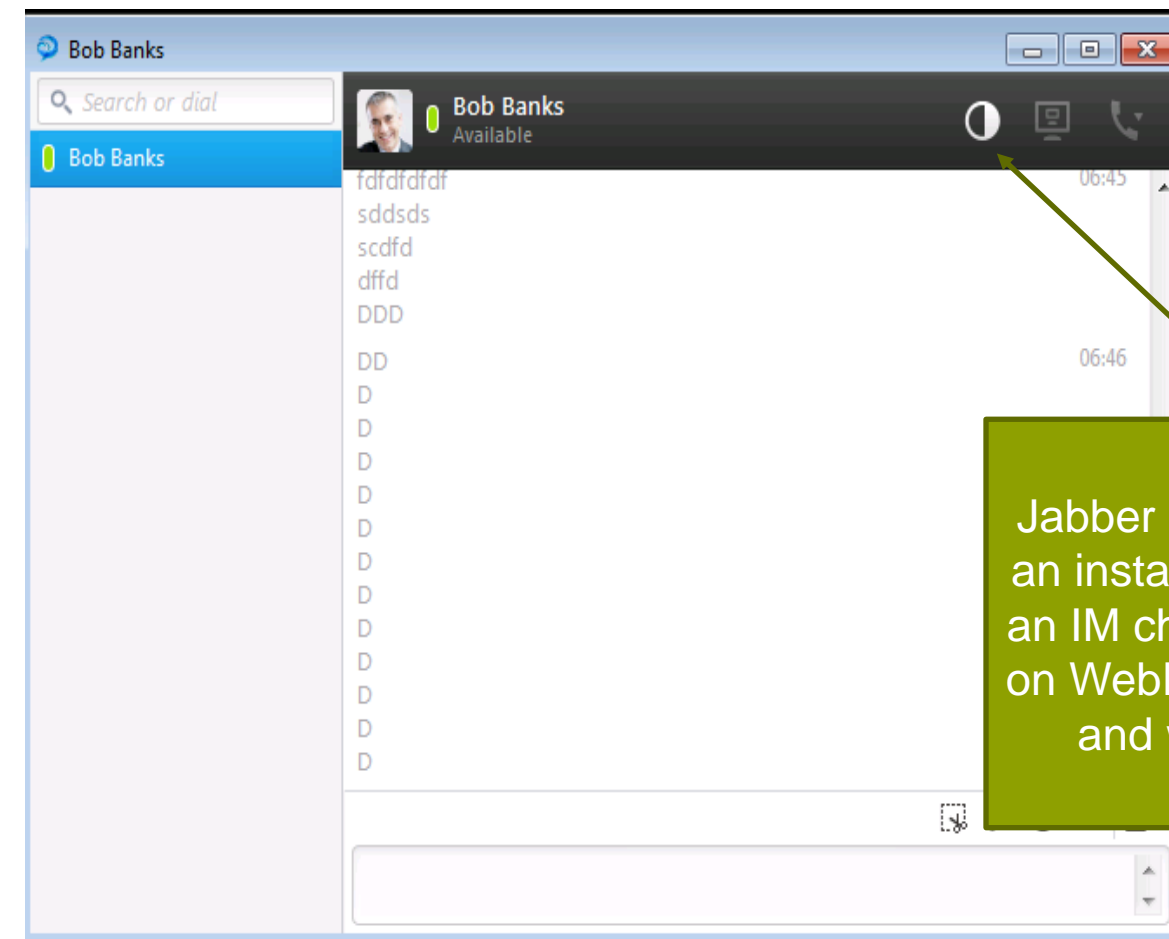
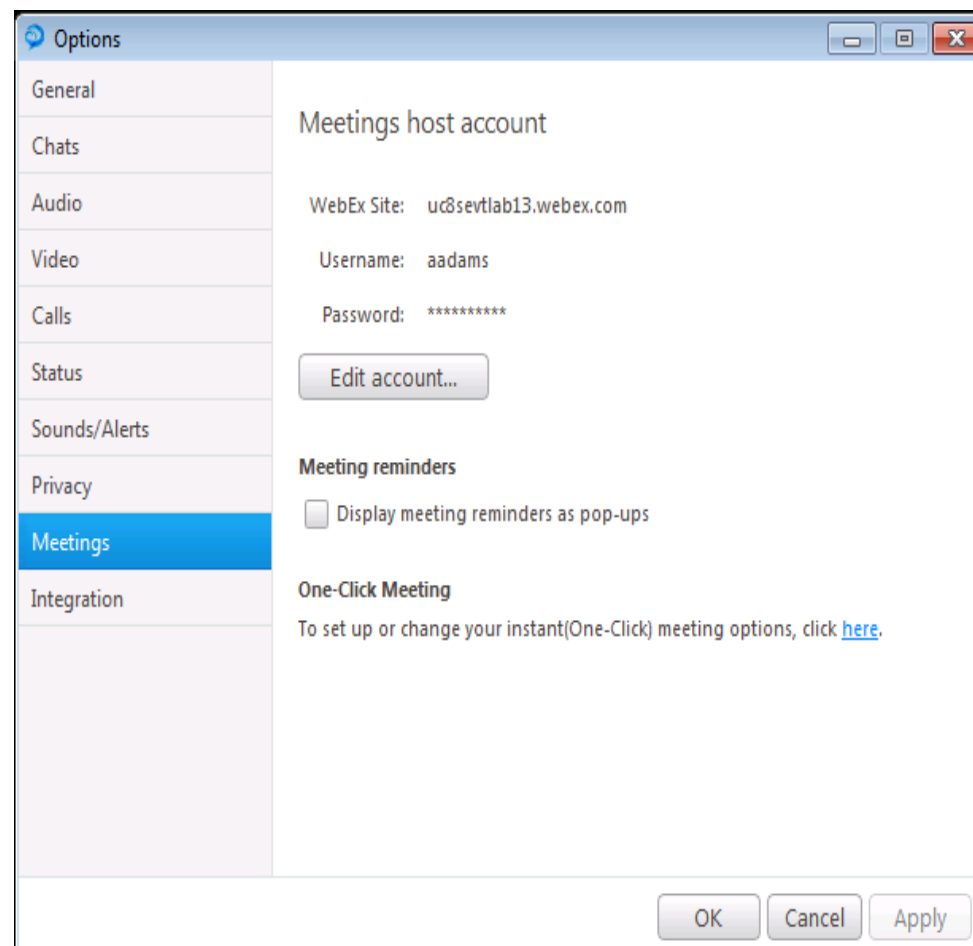
# Scenario 2

## Major Implementation Steps for Federated UC Workloads to Lync

### 3. Jabber users

- ✓ Once a Jabber user logs in, they should see a new “Meetings” option

The new “Meetings” tab in the Jabber options signal the successful WebEx conferencing service creation on CUCM



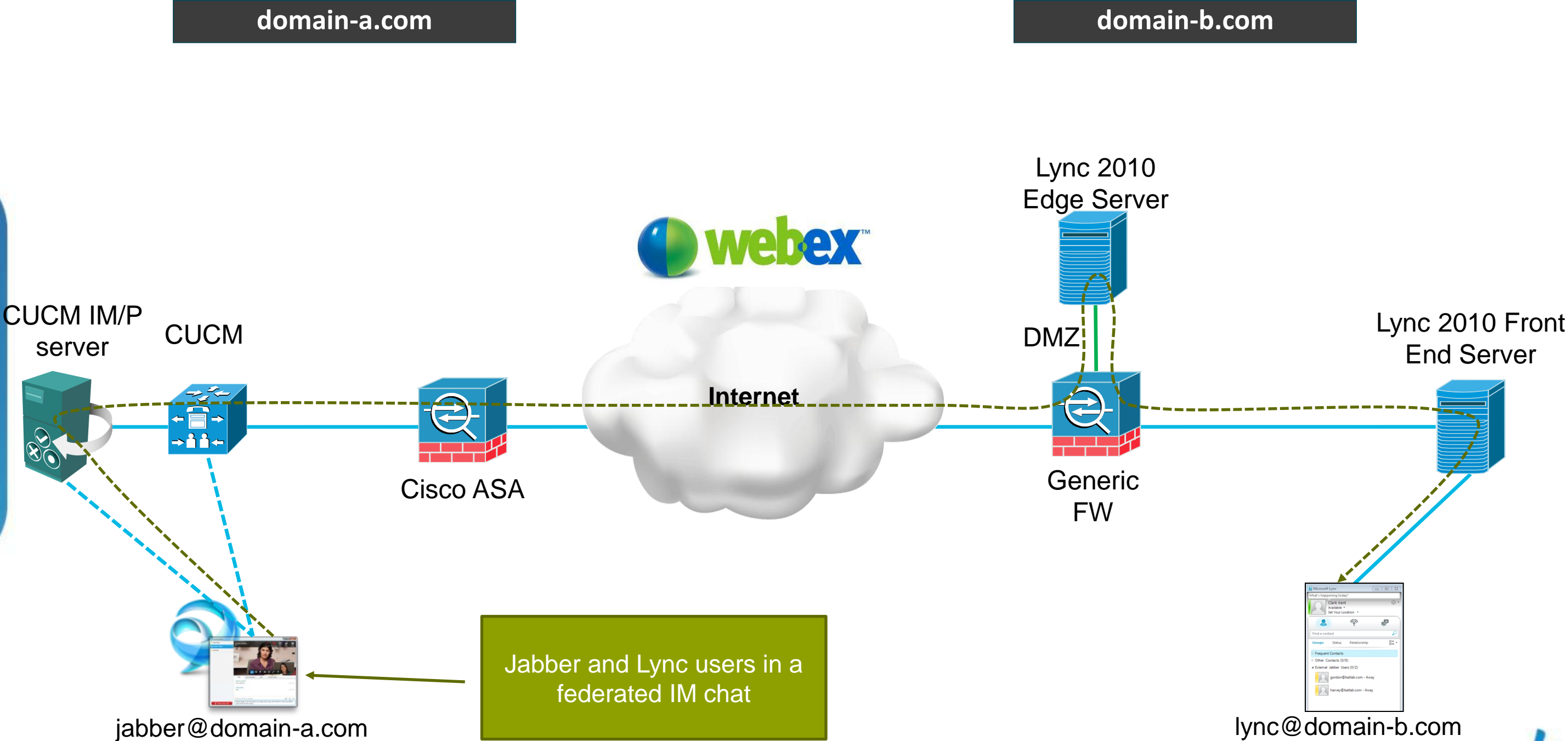
Jabber user now can initiate an instant WebEx meeting in an IM chat to bring in anyone on WebEx using video, audio and web conferencing





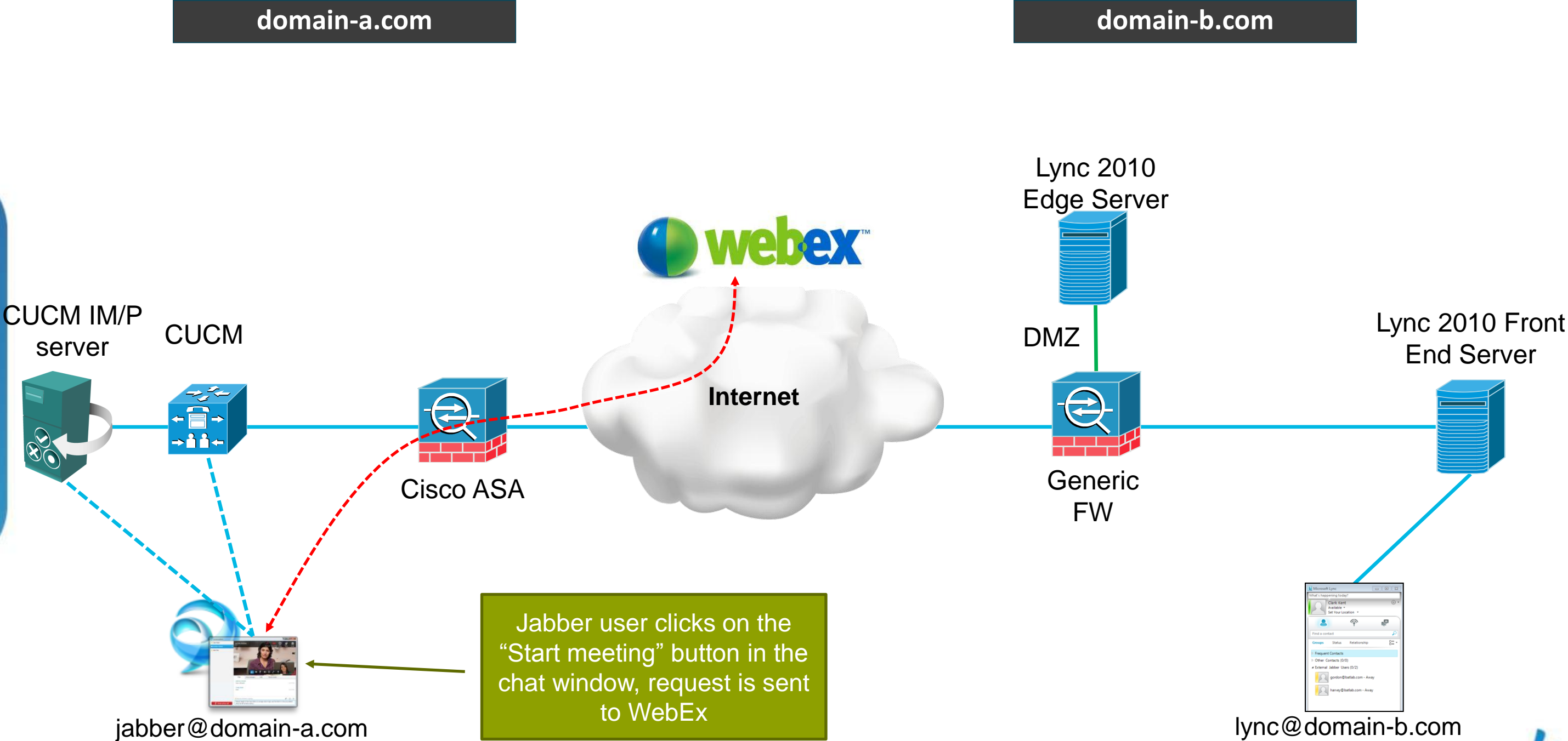
# Scenario 2

## Full UC Workload Federation between Jabber and Lync using WebEx



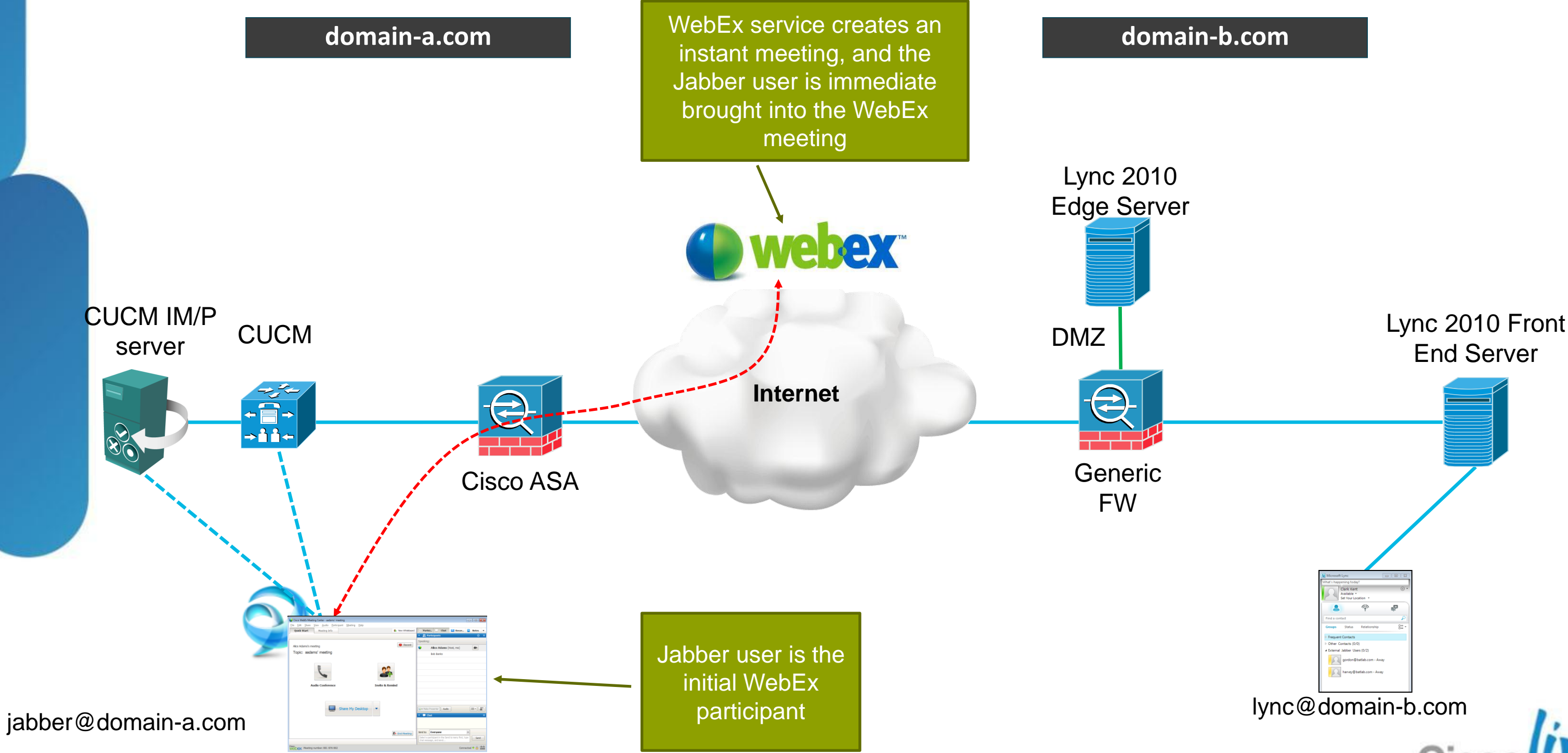
# Scenario 2

## Full UC Workload Federation between Jabber and Lync using WebEx



# Scenario 2

## Full UC Workload Federation between Jabber and Lync using WebEx

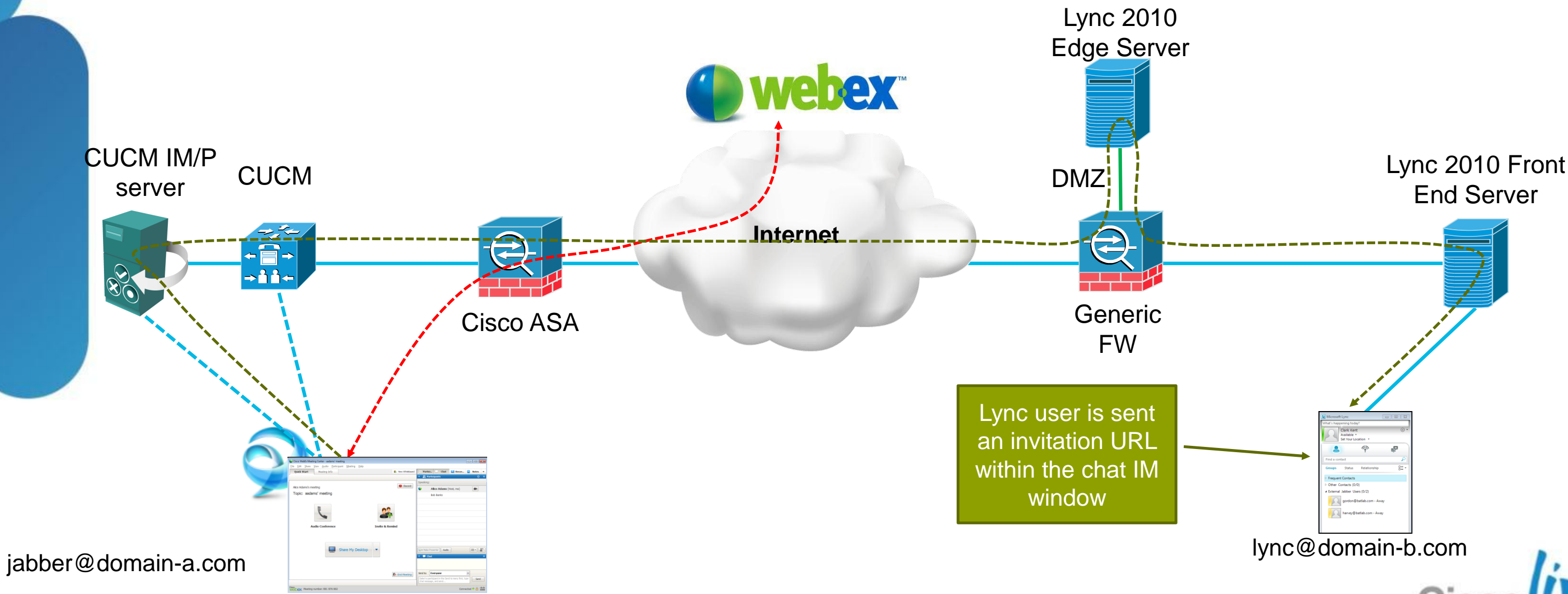


# Scenario 2

## Full UC Workload Federation between Jabber and Lync using WebEx

domain-a.com

domain-b.com



jabber@domain-a.com

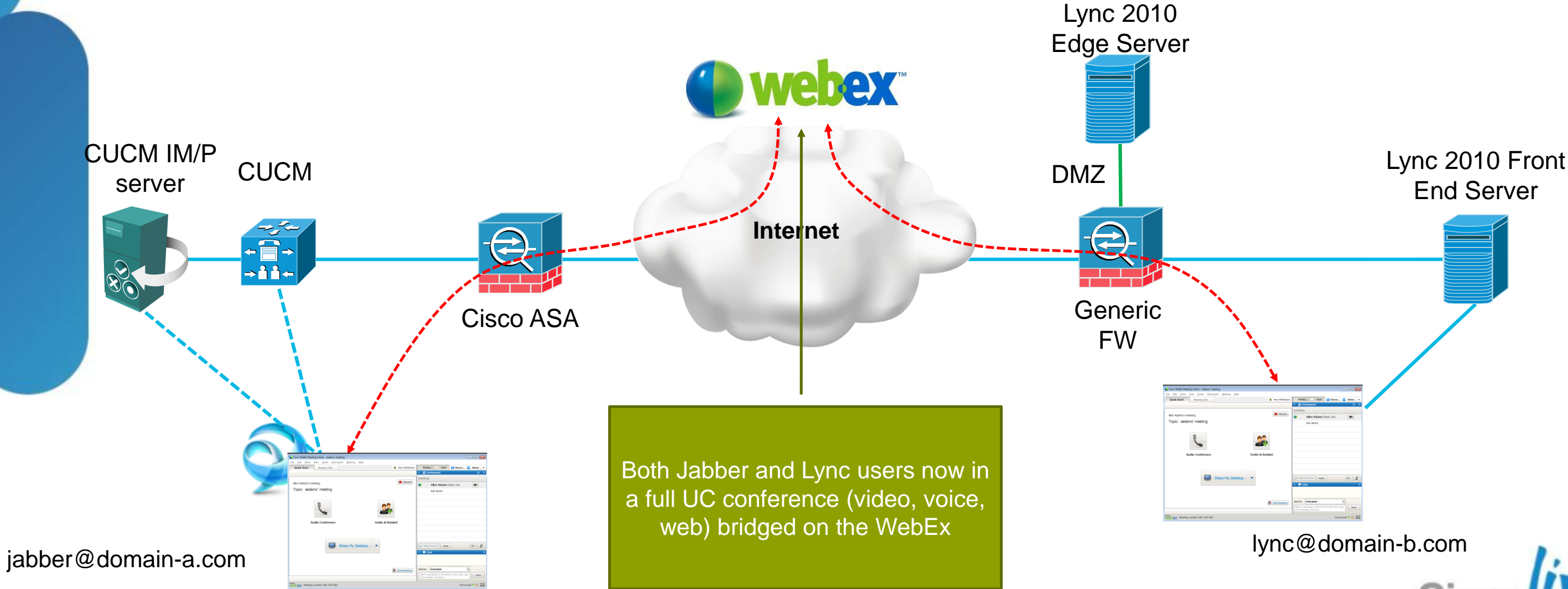
lync@domain-b.com

# Scenario 2

## Full UC Workload Federation between Jabber and Lync using WebEx

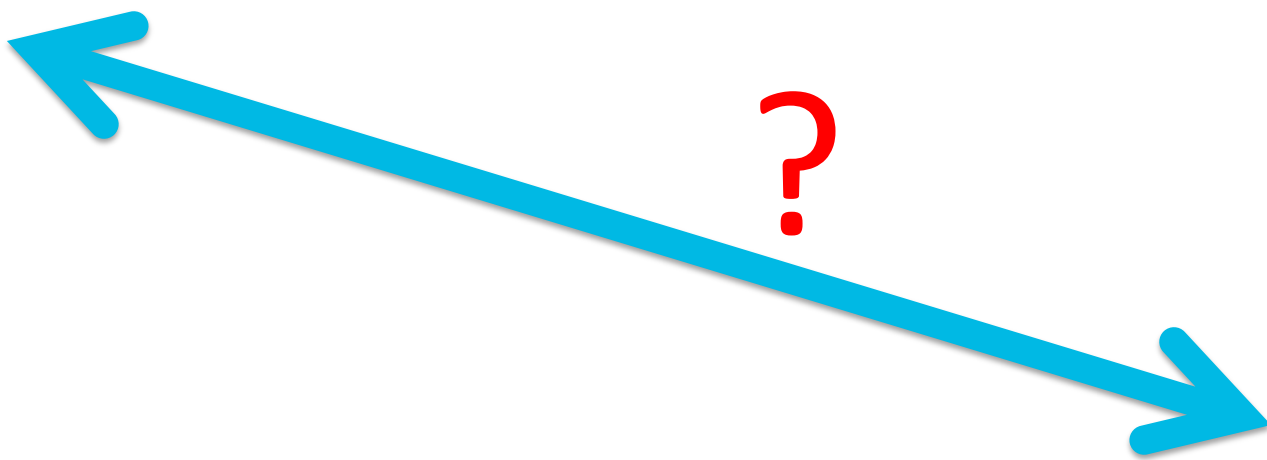
domain-a.com

domain-b.com



# Scenario 2

How about Video Phones and TelePresence Endpoints?

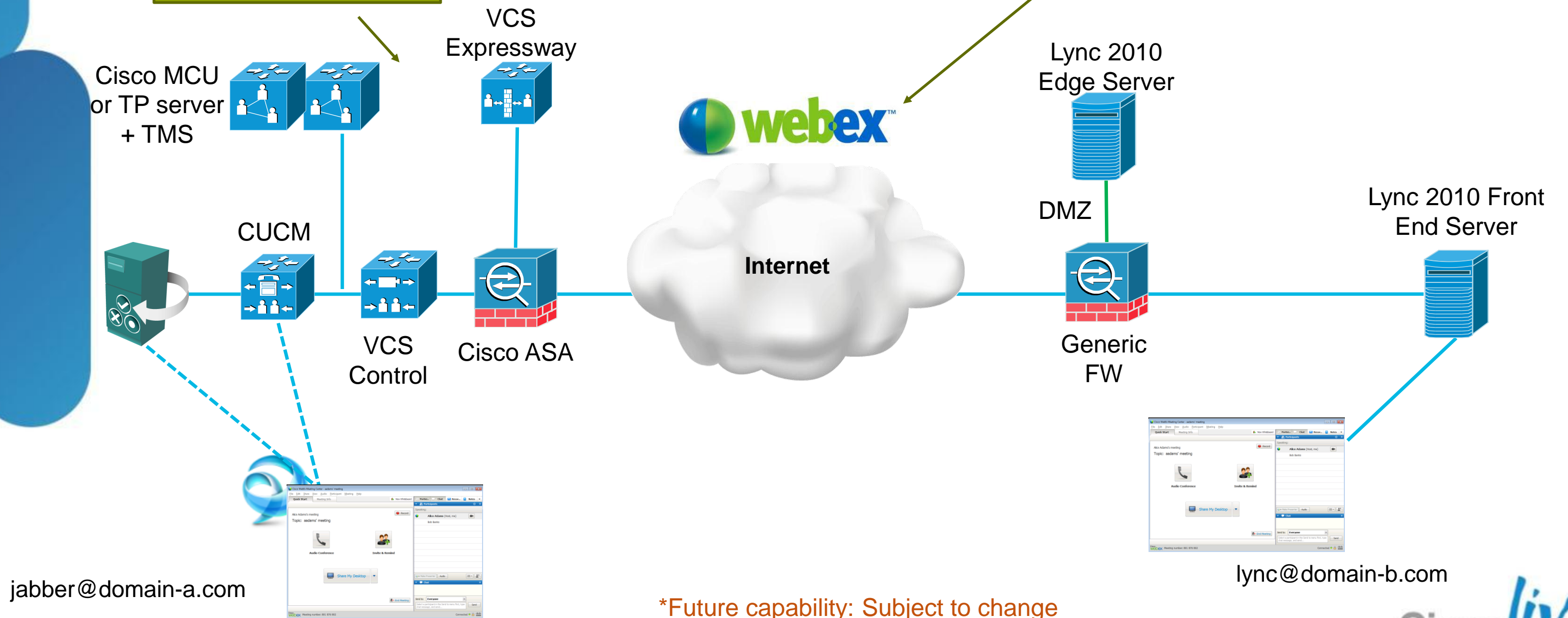


# Scenario 2

## WebEx OneTouch 2.0\* (Sneak Peek)

Required components include VCS-C, VCS-E, MCU, and TMS

WebEx OneTouch 2.0 is an upcoming capability that allows non-general computing devices such as video phones and TelePresence endpoints to join WebEx via MCU



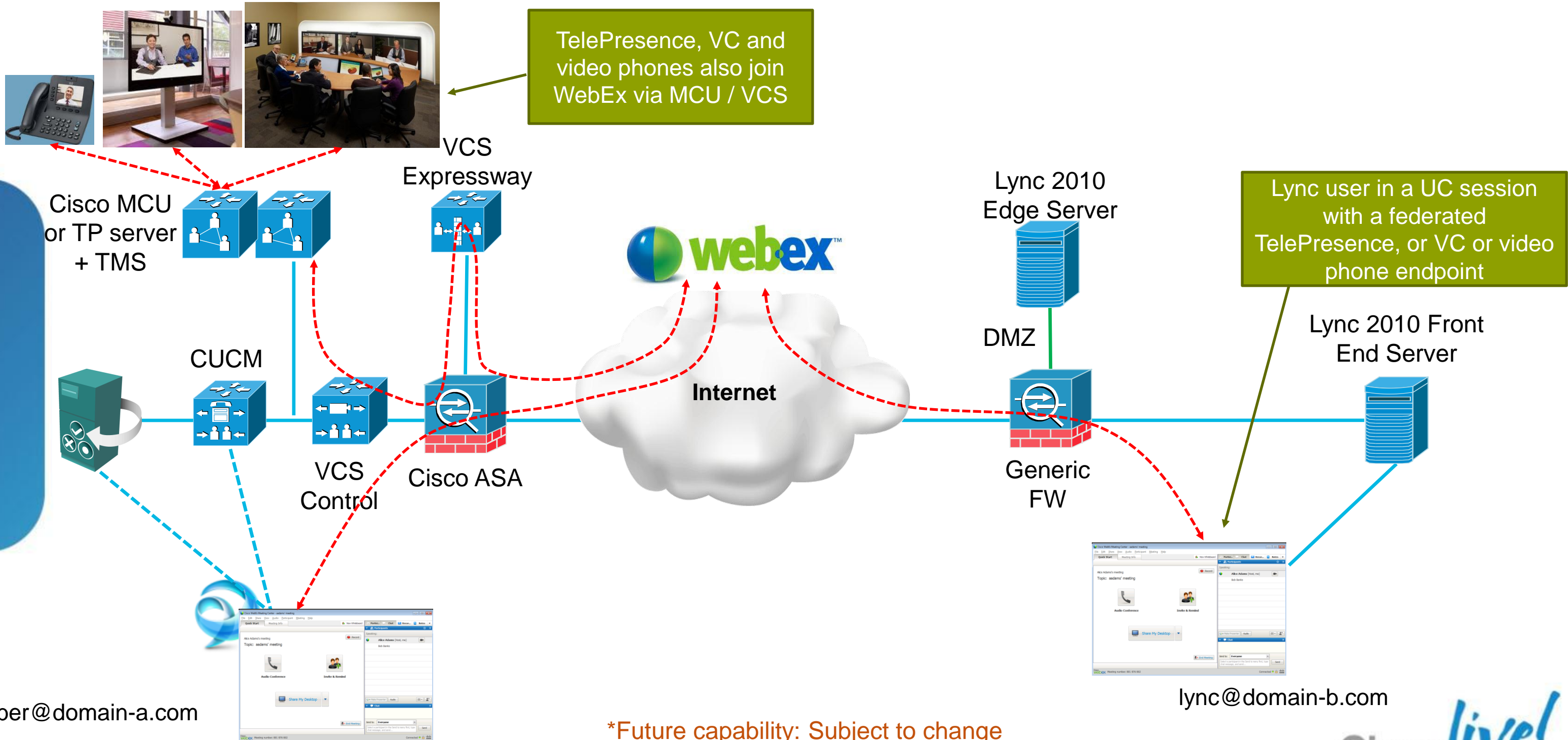
\*Future capability: Subject to change

jabber@domain-a.com

lync@domain-b.com

# Scenario 2

## WebEx OneTouch 2.0\* (Sneak Peek)



\*Future capability: Subject to change

jabber@domain-a.com

lync@domain-b.com



# WebEx OneTouch 2.0

## Notes

- WebEx OneTouch 2.0 must be scheduled by TMS
- No ad hoc escalation into WebEx OneTouch
- Federated Lync users brought into WebEx via invitation by the scheduling user (IM or email)

## Fundamentals

Scenario 1: Inter-Domain Federation to Jabber

Scenario 2: Inter-Domain Federation to Lync

**Scenario 3: Inter-Domain Federation to Public IM**

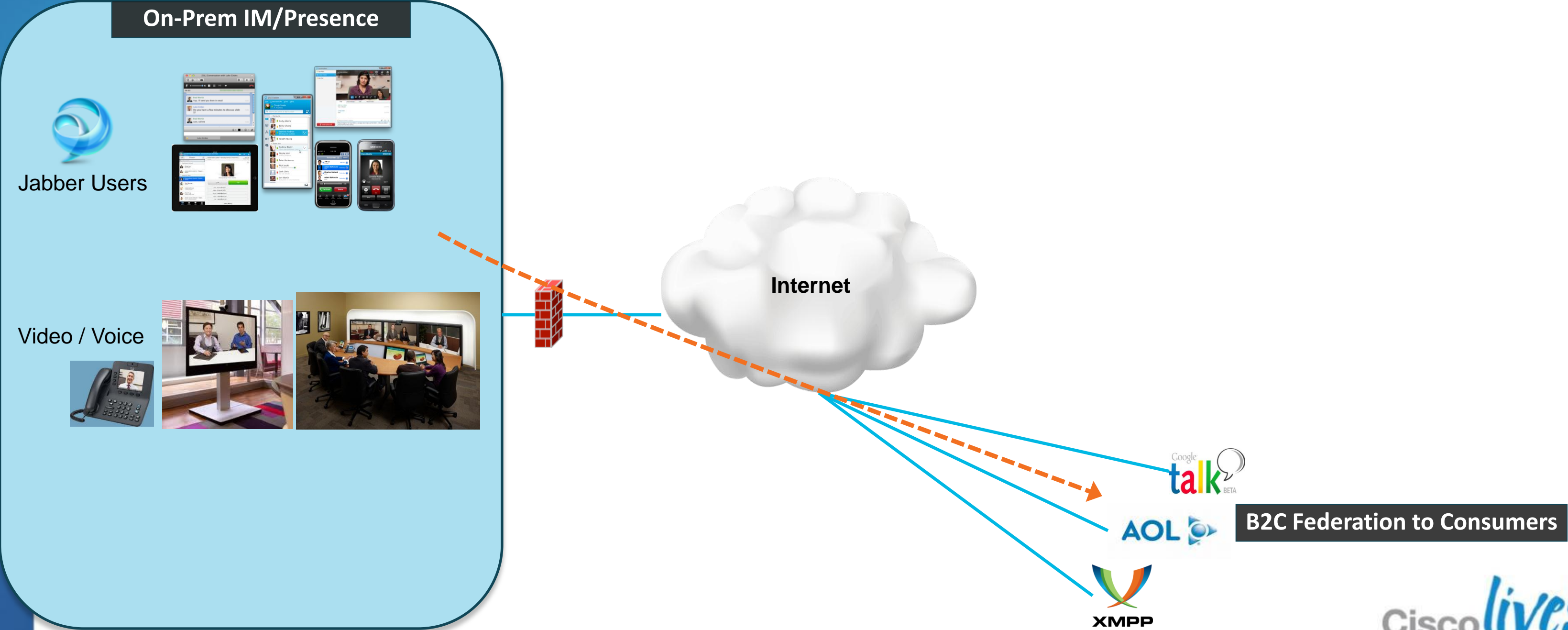
Scenario 4: Intra-Domain Federation between Jabber & Lync

Scenario 5: Cloud WebEx Messenger Inter-Domain Federation



# Scenario 3

## Inter-Domain B2C Federation



# Public IM Services

## Overview of B2C IM / Presence Federation

### 1. Google Talk / Gmail



- ✓ XMPP
- ✓ Same configuration steps as Scenario 1 (except no TLS)

### 2. Third Party XMPP

- ✓ Same configuration steps as Scenario 1

### 3. AOL

- ✓ SIP/SIMPLE
- ✓ Configuration steps as follow



# Scenario 3

## Configuration Steps for AOL IM/P Federation

### 1. Pre-configuration

- ✓ Order AOL license SKU
- ✓ Provide AOL with routing information (FQDN & domain of IM/P server)

### 2. Add a SIP federated domain on IM/P server

- ✓ Cisco Unified CM IM and Presence Administration > Presence > Inter Domain Federation > SIP Federation > Add New
- ✓ Select **Inter-domain to AOL**

# Scenario 3

## Configuration Steps for AOL IM/P Federation (Continued)

### 3. SIP TLS static route towards AOL

- ✓ Cisco Unified CM and Presence Administration > Presence > Routing > Static Routes

SIP Route patterns need to be written in reverse

Static Route Information	
Destination Pattern *	<input type="text" value=".com.aol.*"/>
Description	<input type="text" value="aol.com"/>
Next Hop *	<input type="text" value="sip.oscar.aol.com"/>
Next Hop Port *	<input type="text" value="5061"/>
Route Type *	<input type="text" value="Domain"/>
Protocol Type	<input type="text" value="TLS"/>
Priority *	<input type="text" value="1"/>
Weight *	<input type="text" value="1"/>
Allow Less-Specific Route *	<input type="text" value="On"/>
In Service *	<input type="text" value="On"/>

Next hop is AOL's SIP Access Gateway

# Scenario 3

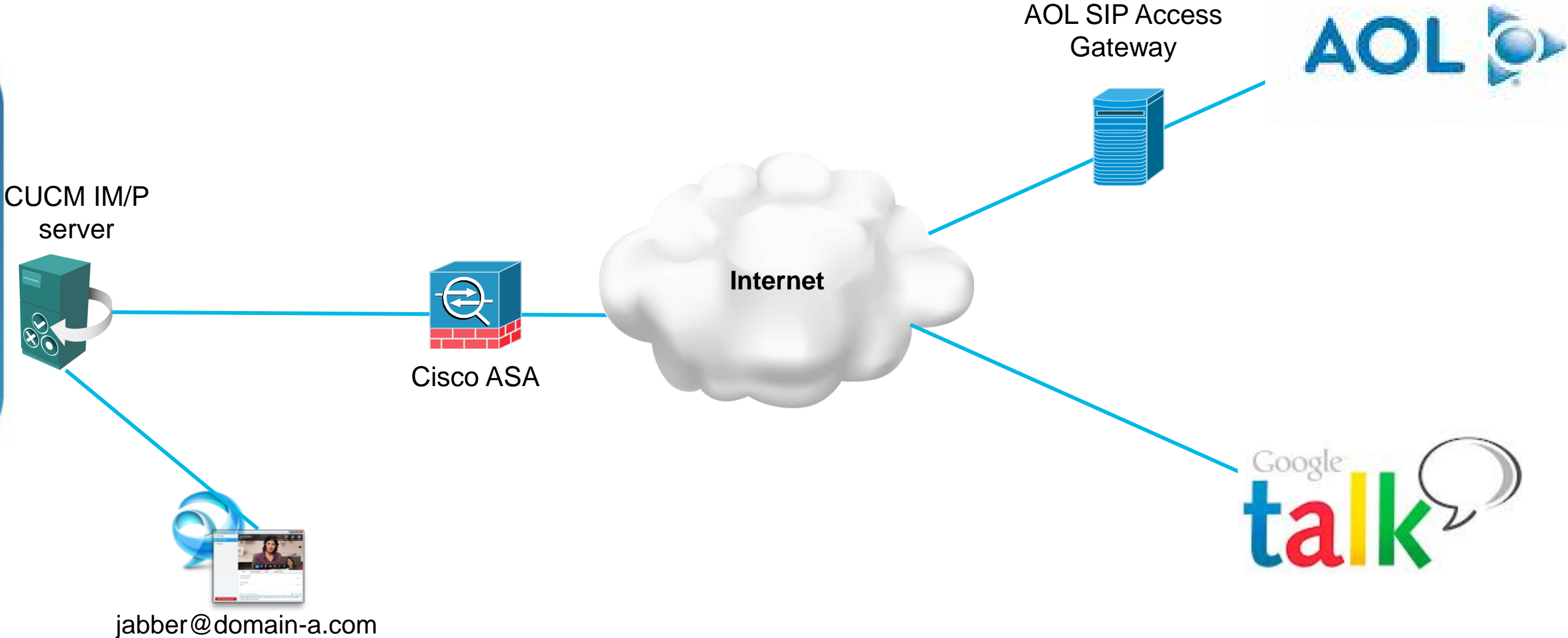
## Configuration Steps for AOL IM/P Federation (Continued)

4. Certificate exchange: Cisco ASA and AOL SIP Access GW
  - ✓ Download AOL certificates
  - ✓ Create new trust points on Cisco ASA for the AOL certificates
  - ✓ Generate and submit Certificate Signing Request on ASA to VeriSign CA
  - ✓ Import VeriSign certificates to Cisco ASA
  - ✓ Provide VeriSign root and intermediate certificates to AOL

# Scenario 3

## Overview of Jabber to Public IM B2C Federation

domain-a.com

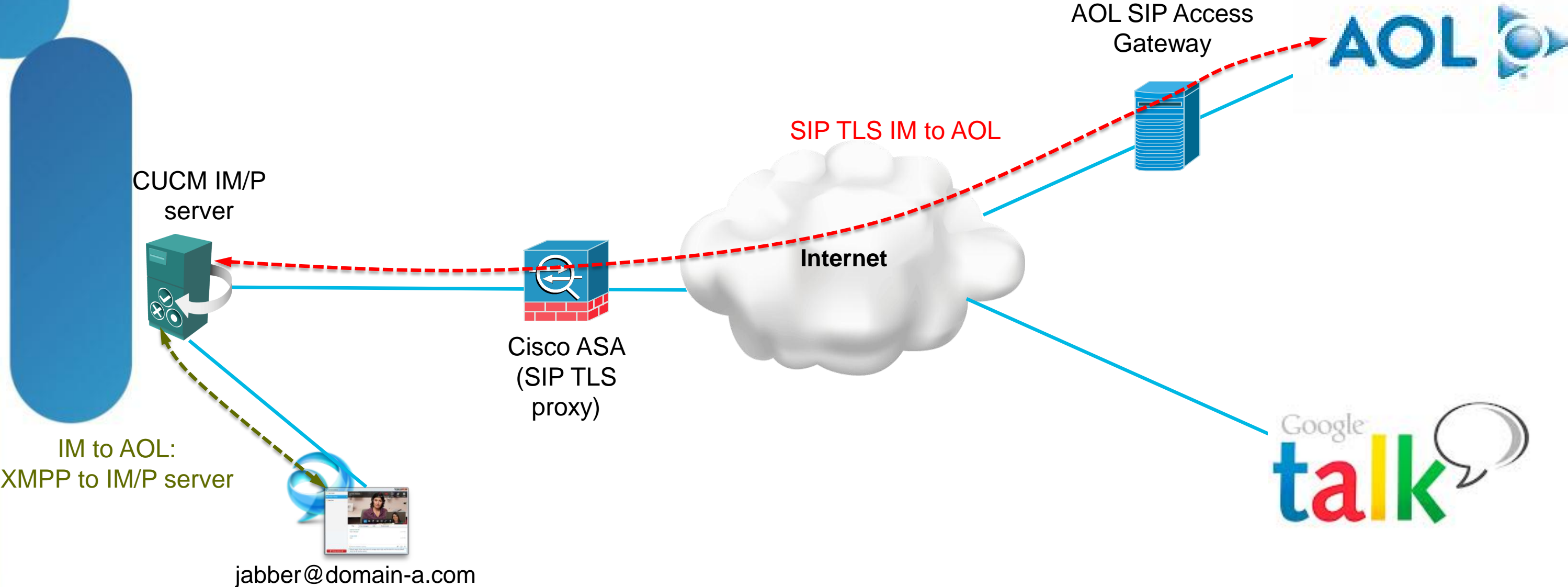




# Scenario 3

## Overview of Jabber to Public IM B2C Federation

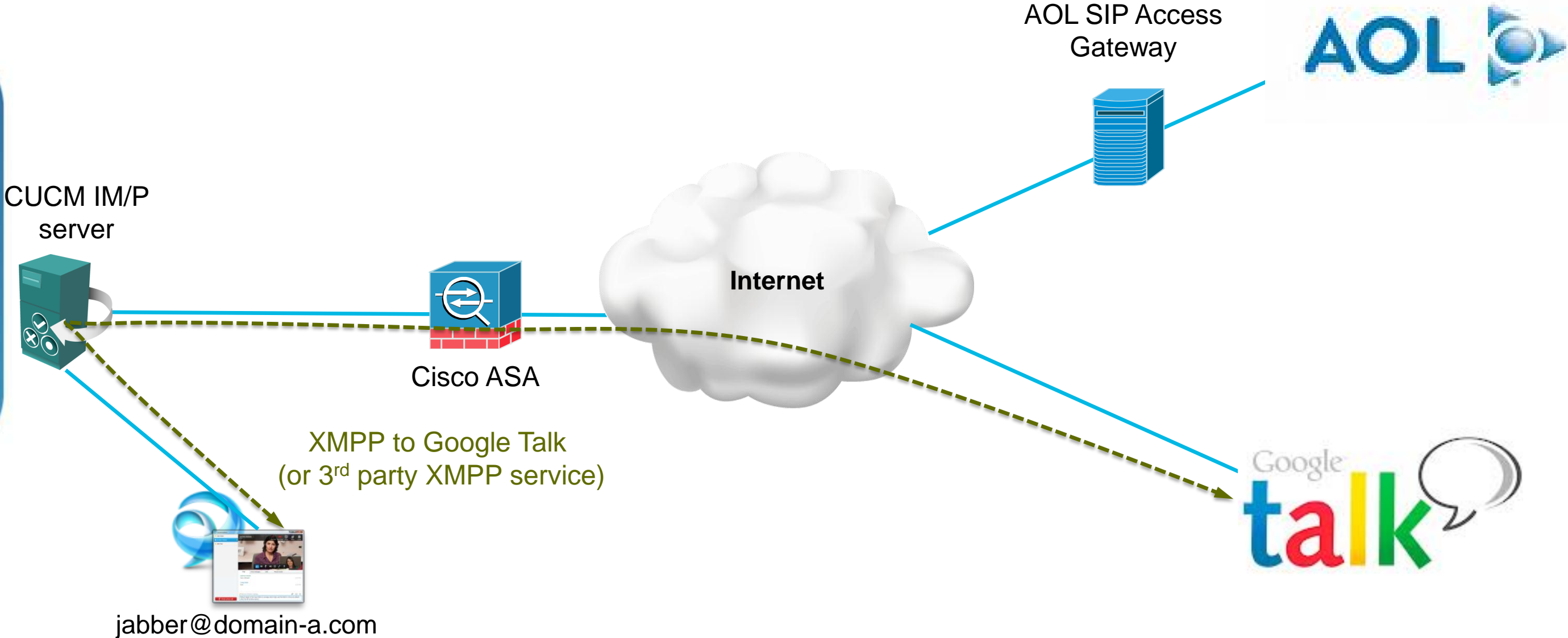
domain-a.com



# Scenario 3

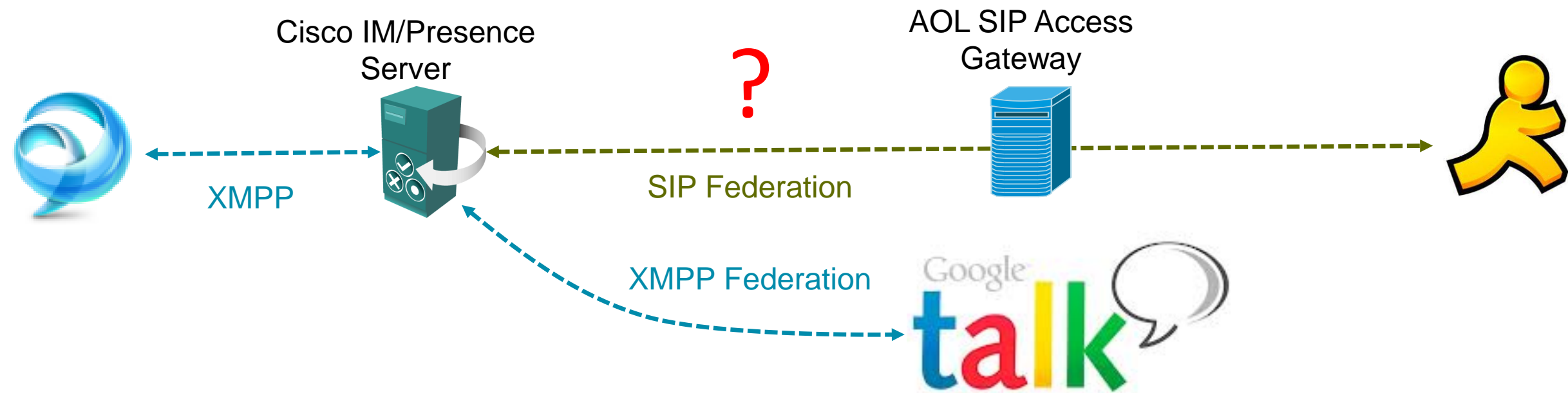
## Overview of Jabber to Public IM B2C Federation

domain-a.com



# Scenario 3

How about Video / Voice Calls?



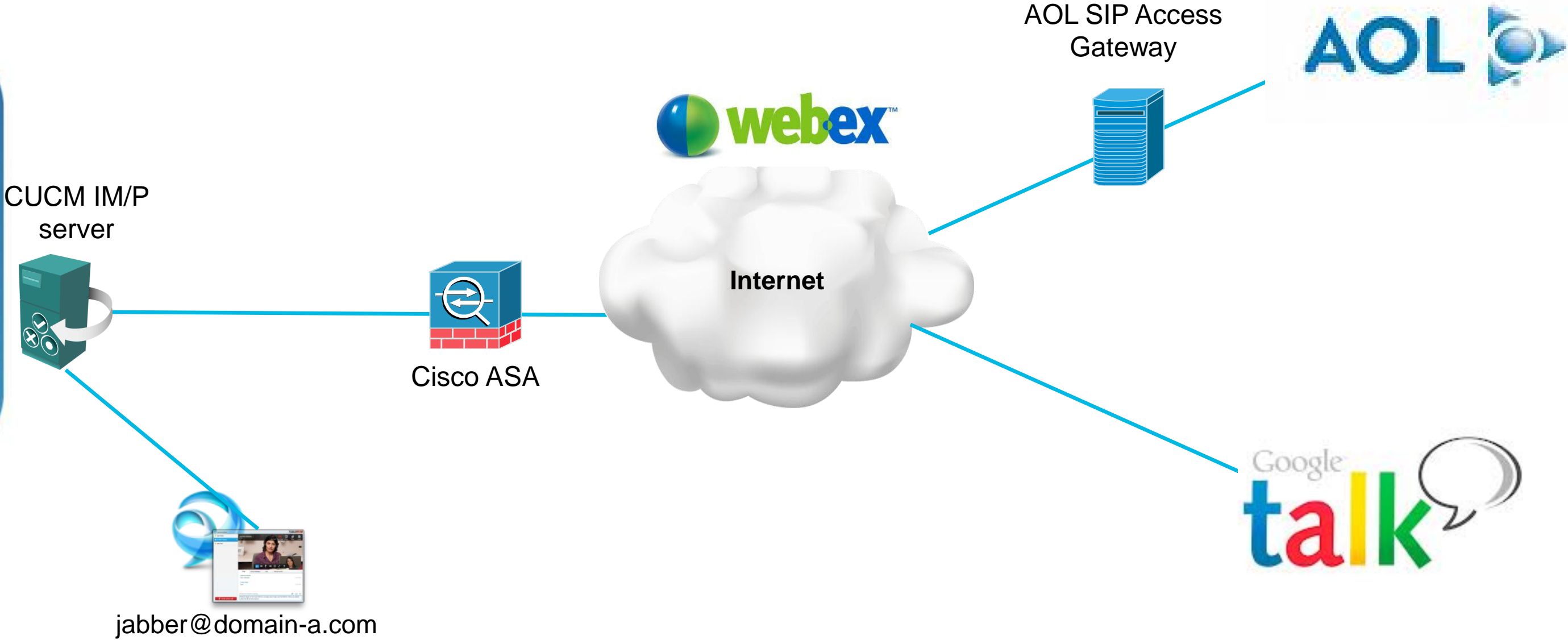
## (Similar) Two challenges

1. B2C public IM federation supports **IM** only
2. Incompatible video codecs
  - Jabber supports H.264/AVC
  - Google Talk video supports H.264/SVC

# Scenario 3

## Add WebEx for Full UC B2C Federation

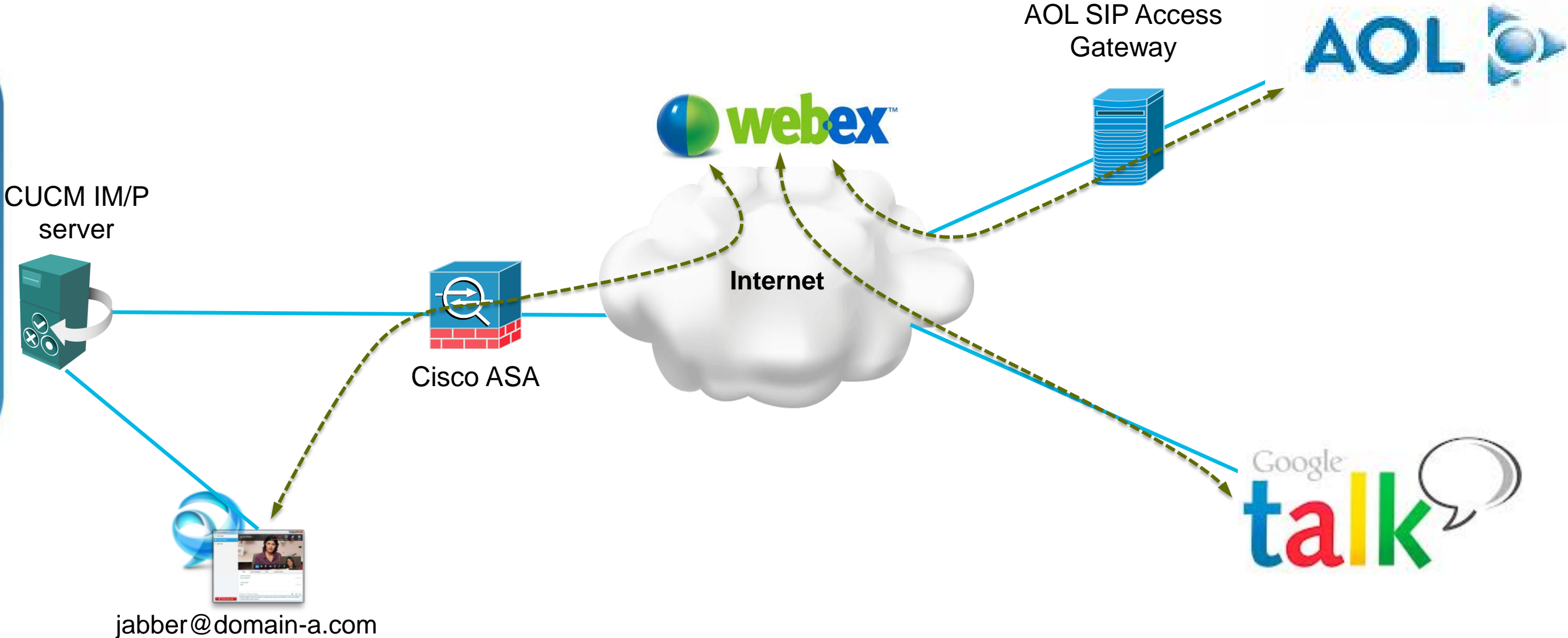
domain-a.com



# Scenario 3

## Add WebEx for Full UC B2C Federation

domain-a.com



## Fundamentals

Scenario 1: Inter-Domain Federation to Jabber

Scenario 2: Inter-Domain Federation to Lync

Scenario 3: Inter-Domain Federation to Public IM

**Scenario 4: Intra-Domain Federation between Jabber & Lync**

Scenario 5: Cloud WebEx Messenger Inter-Domain Federation



# Scenario 4

## Partitioned Intra-Domain Federation between Jabber and Lync

On-Prem IM/Presence

Jabber Users



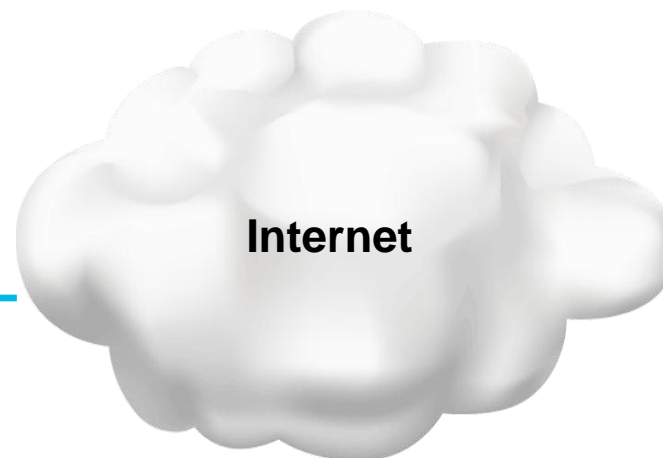
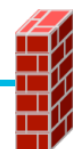
Video / Voice



Lync Users



Intra-Domain Federation to Lync



# Why Intra-Domain Federation?

## Major Reasons for Scenario 4

1. Mergers and acquisitions
2. Migration from Lync to Jabber
  - ✓ Phased approach rather than big-bang



### ■ Benefits:

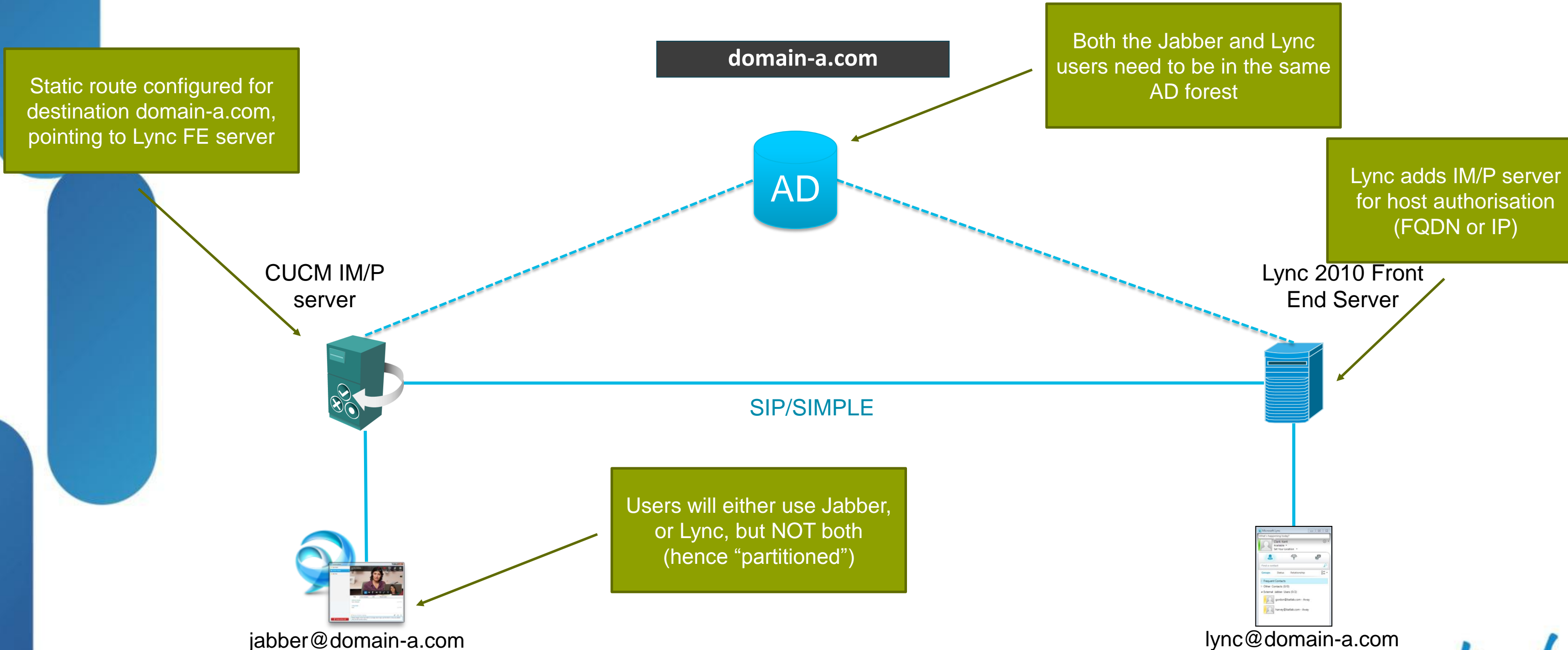
- ✓ Share the same presence domain (i.e. domain-a.com)
- ✓ Exchange presence and IM within shared domain
- ✓ Search for and add contacts
- ✓ User's identity (URI) is maintained





# Scenario 4

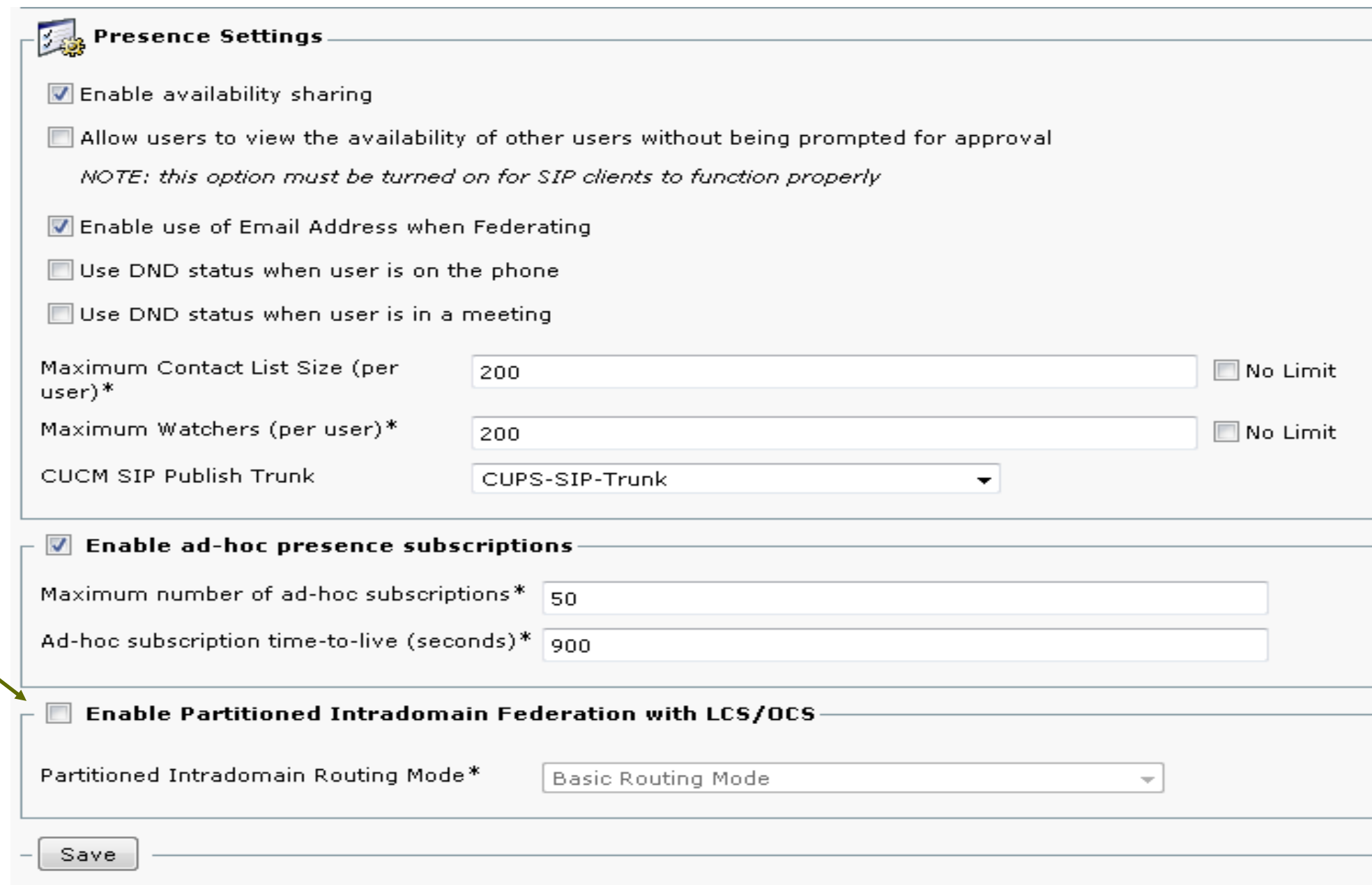
## Key Components for Partitioned Intra-Domain Federation



# Scenario 4

## Major Configuration Steps (Cisco Side)

### 1. Enable Partitioned Intradomain Federation with LCS/OCS/Lync:



**Presence Settings**

- Enable availability sharing
- Allow users to view the availability of other users without being prompted for approval  
*NOTE: this option must be turned on for SIP clients to function properly*
- Enable use of Email Address when Federating
- Use DND status when user is on the phone
- Use DND status when user is in a meeting

Maximum Contact List Size (per user)\*   No Limit

Maximum Watchers (per user)\*   No Limit

CUCM SIP Publish Trunk

---

**Enable ad-hoc presence subscriptions**

Maximum number of ad-hoc subscriptions\*

Ad-hoc subscription time-to-live (seconds)\*

---

**Enable Partitioned Intradomain Federation with LCS/OCS**

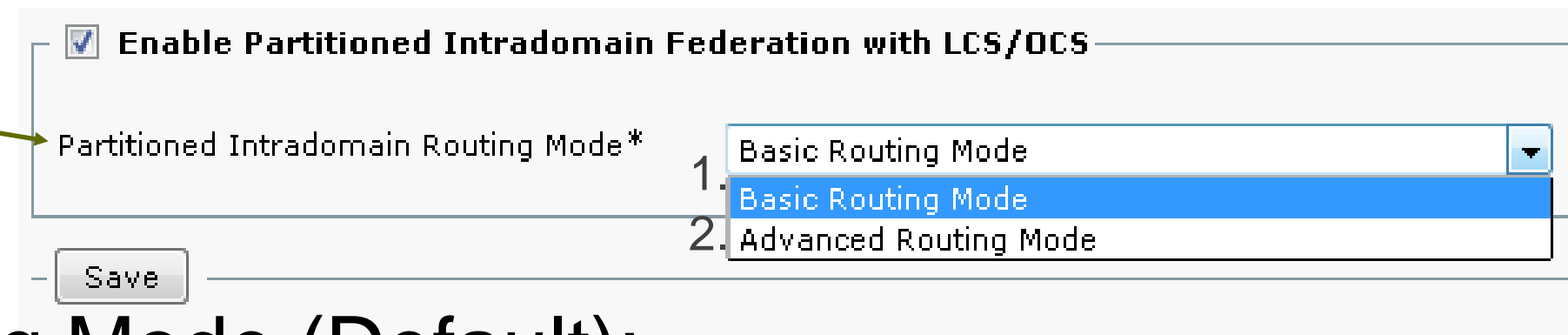
Partitioned Intradomain Routing Mode\*

# Scenario 4

## Major Configuration Steps (Cisco Side)

### 2. Choose routing mode

Basic or Advanced Routing Mode



The screenshot shows a configuration window with a checked checkbox for "Enable Partitioned Intradomain Federation with LCS/OCS". Below it is a dropdown menu for "Partitioned Intradomain Routing Mode\*" with a "Save" button. The dropdown menu is open, showing two options: "1. Basic Routing Mode" (highlighted) and "2. Advanced Routing Mode".


- **Basic Routing Mode (Default):**
  - ✓ Should be set if Lync users do NOT exist on CUCM
  - ✓ Or that CUCM has not synchronised the Lync users from AD
- **Advanced Routing Mode:**
  - ✓ IM/P will route to Lync only if the recipient has a valid Lync SIP URI
  - ✓ CUCM must sync all users from AD

# Scenario 4

## Major Configuration Steps (Cisco Side)

### 3. Configure incoming ACL to allow SIP from Lync to IM/P server

- ✓ Cisco Unified CM IM and Presence Administration > System > Security > Incoming ACL

 **Incoming ACL Information**

Configure an address which will be added to the SIP Proxy list of allowed incoming addresses. Note: any address added to this list

Description	<input type="text" value="LyncACL"/>
Address Pattern*	<input type="text" value="All"/>

# Scenario 4

## Major Configuration Steps (MS Side)

### 4. Create static route on Lync FE server to point to IM/P server

```
$tcpRoute = New-CsStaticRoute -TCPRoute -Destination 10.105.217.90 -Port 5060 -MatchUri "domain-a.com"  
  
Set-CsStaticRoutingConfiguration -Route @{Add=$tcpRoute}
```

# Scenario 4

## Major Configuration Steps (MS Side)

### 5. Authorise the IM/P server host on Lync and open port 5060

```
New-CsTrustedApplicationPool -Identity trustedpool.cisco.com -Registrar  
bat-lync.domain-a.COM -Site 1 -TreatAsAuthenticated $true -ThrottleAsServer $true  
-RequiresReplication $false -OutboundOnly $false -Computerfqdn 10.105.217.90  
  
New-CsTrustedApplicationComputer -Identity 10.105.217.90 -Pool trustedpool.domain-a.COM  
  
New-CsTrustedApplication -ApplicationID trustedapp -TrustedApplicationPoolFqdn trustedpool.domain-a.COM -  
Port 5060 -EnableTCP  
  
Enable-CsTopology  
  
Get-CsTopology -AsXML | out-file c:\topo3.xml  
  
Publish-CsTopology C:\topo3.xml
```

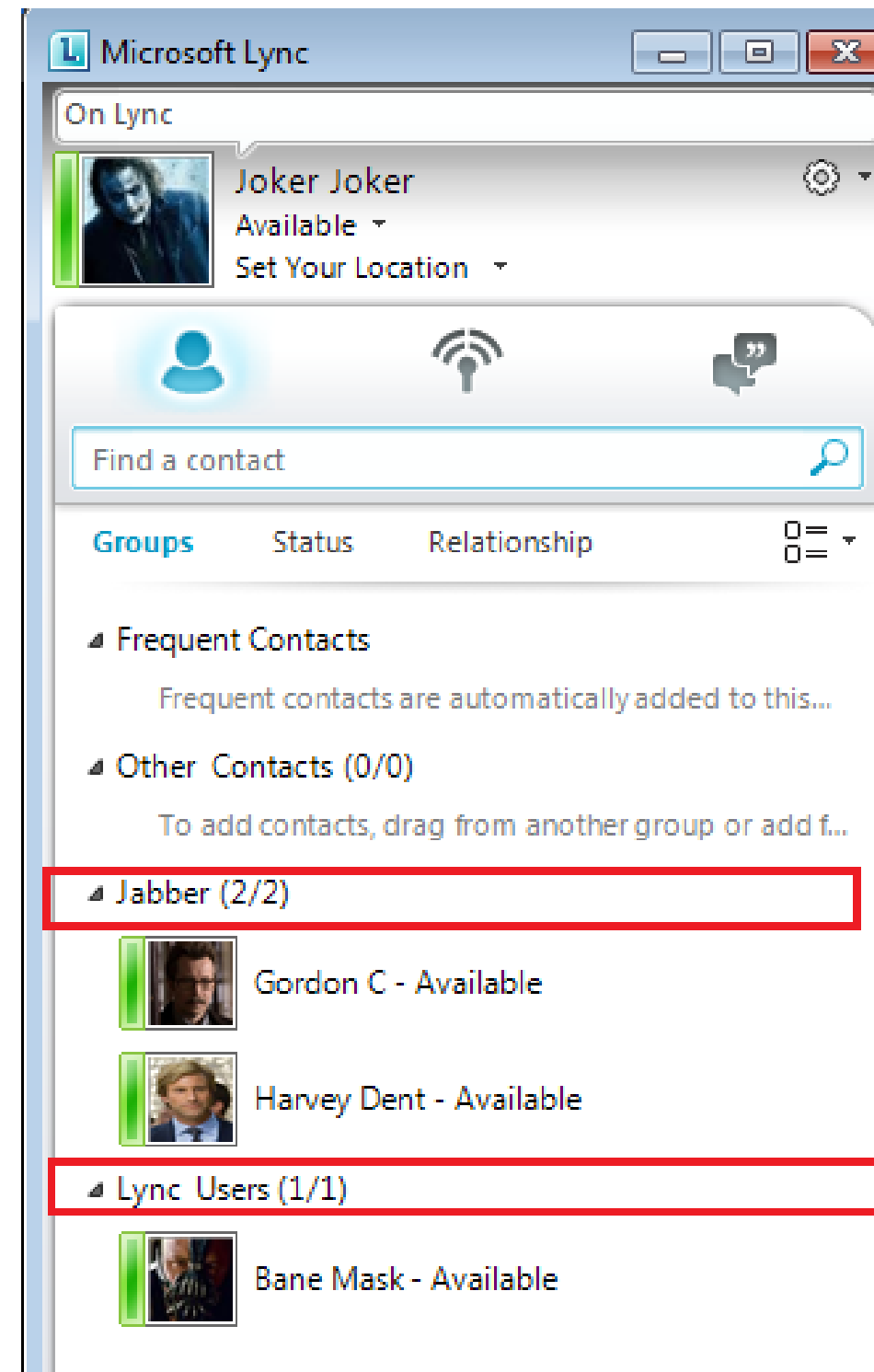
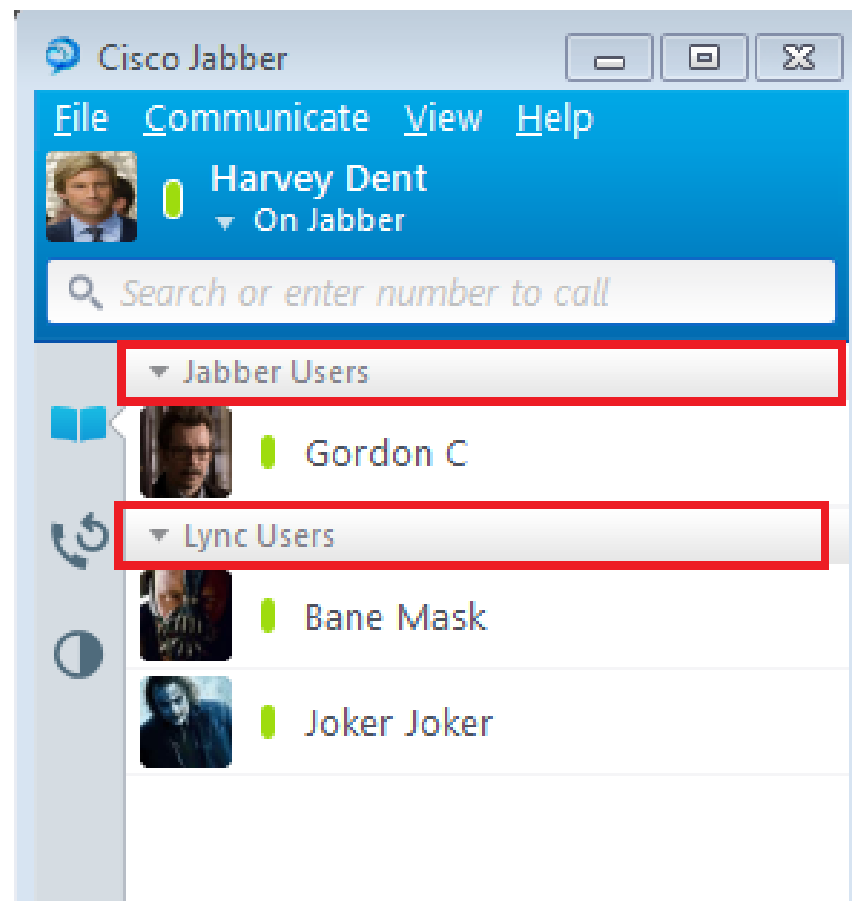
# Scenario 4

## Major Configuration Steps (MS Side)

6. Publish the Lync topology
7. Install Certificate Authority root cert on Lync
8. Configure signed certificate on Lync

# Scenario 4

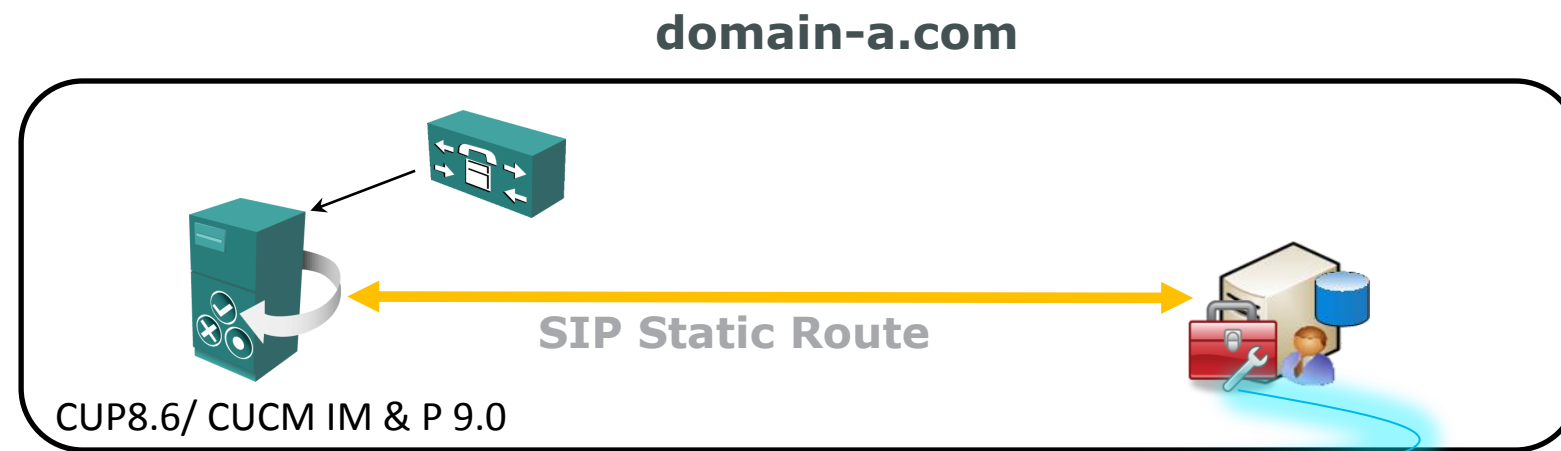
## The Result of Partitioned Intra-Domain Federation





# Scenario 4

How do I migrate users from Lync to Jabber?



1. GetContacts.wsf (VB Script)
  - ✓ Export users contact lists to be imported to IM/P using BAT
2. DisableCommunicationsAccount.exe
3. DeleteOCSUserData.exe

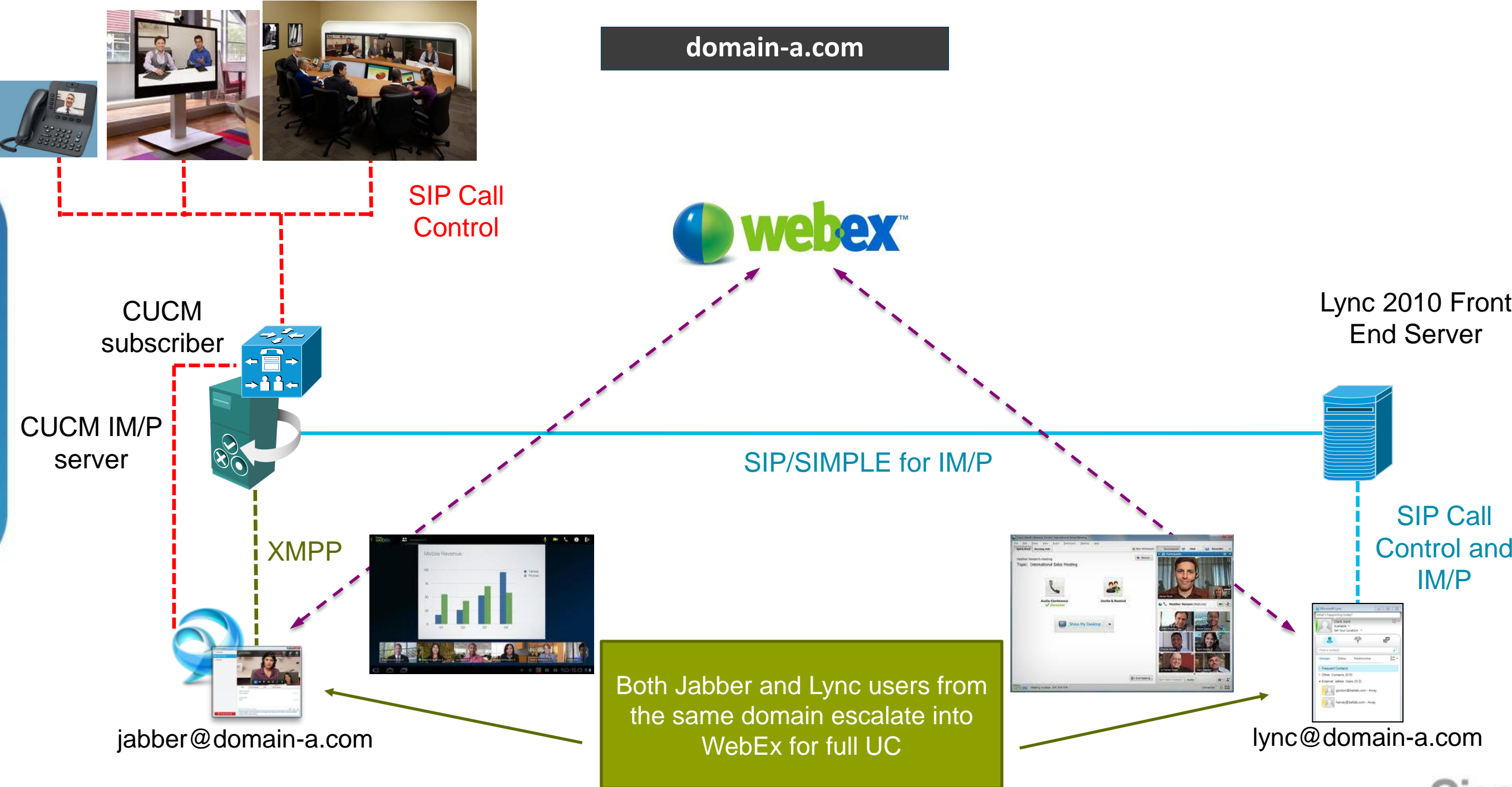
# Scenario 4

## How about Video and Voice?



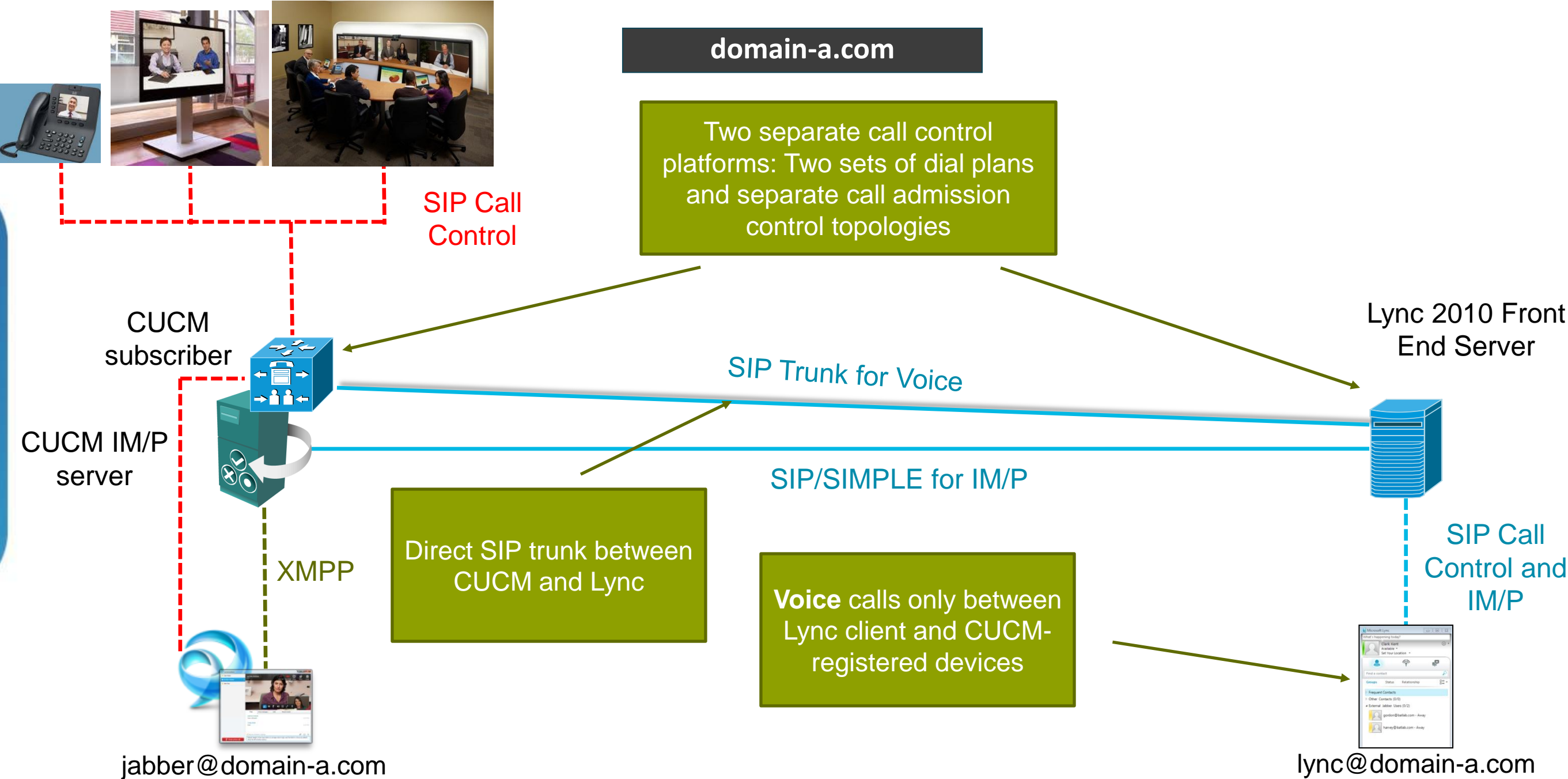
# Scenario 4

## Option 1: WebEx



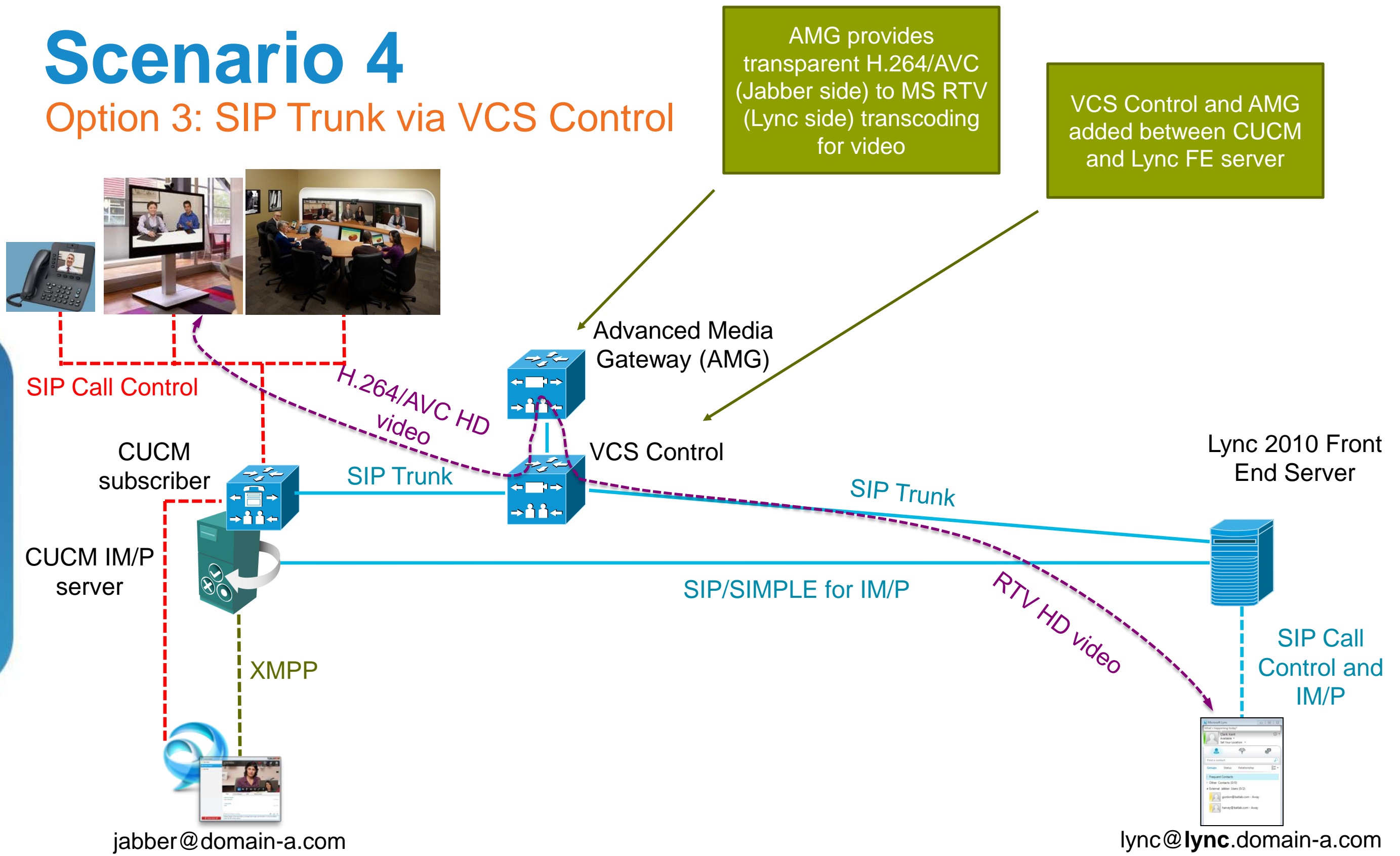
# Scenario 4

## Option 2: Direct SIP Trunk between CUCM and Lync



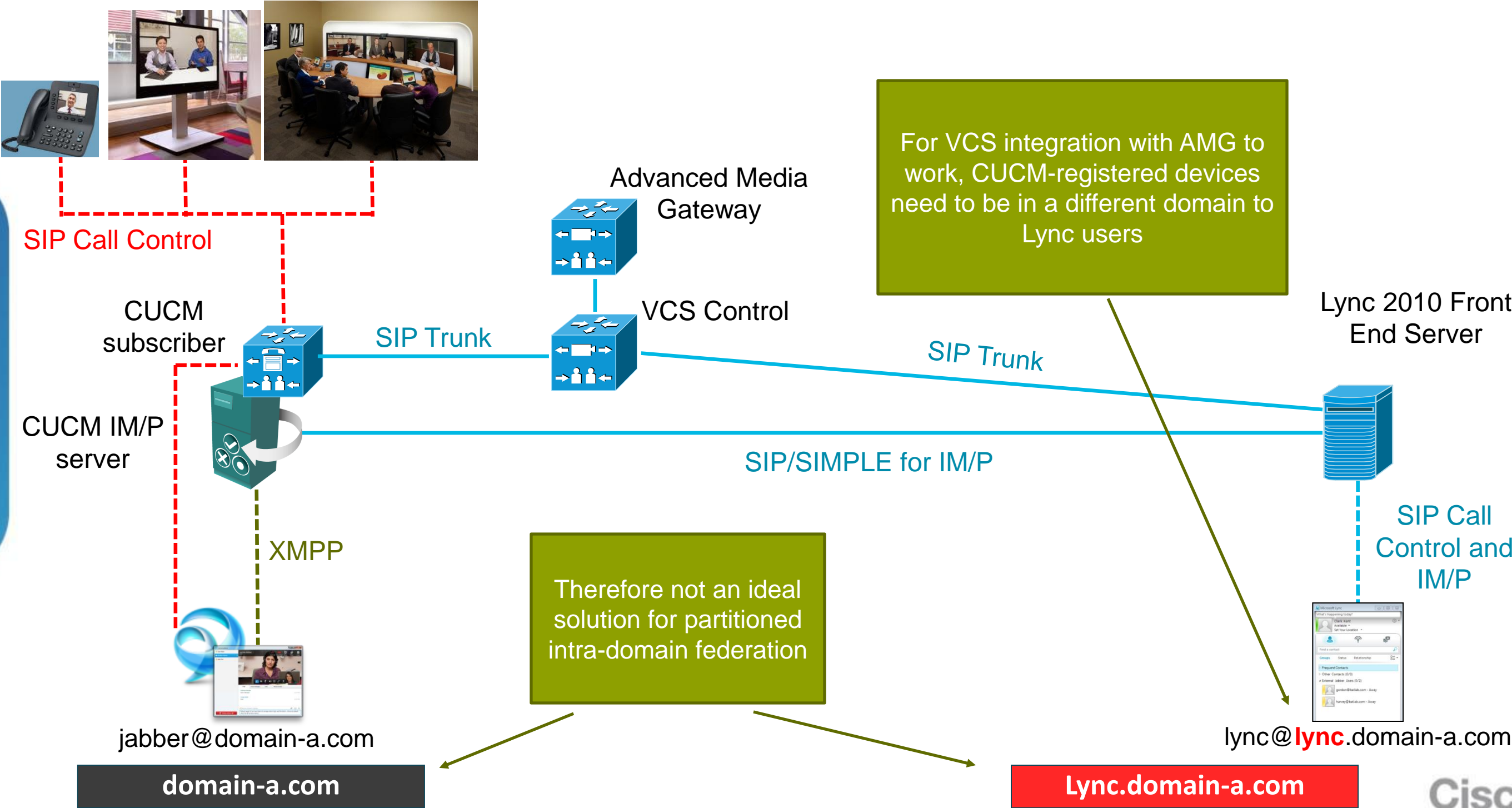
# Scenario 4

## Option 3: SIP Trunk via VCS Control



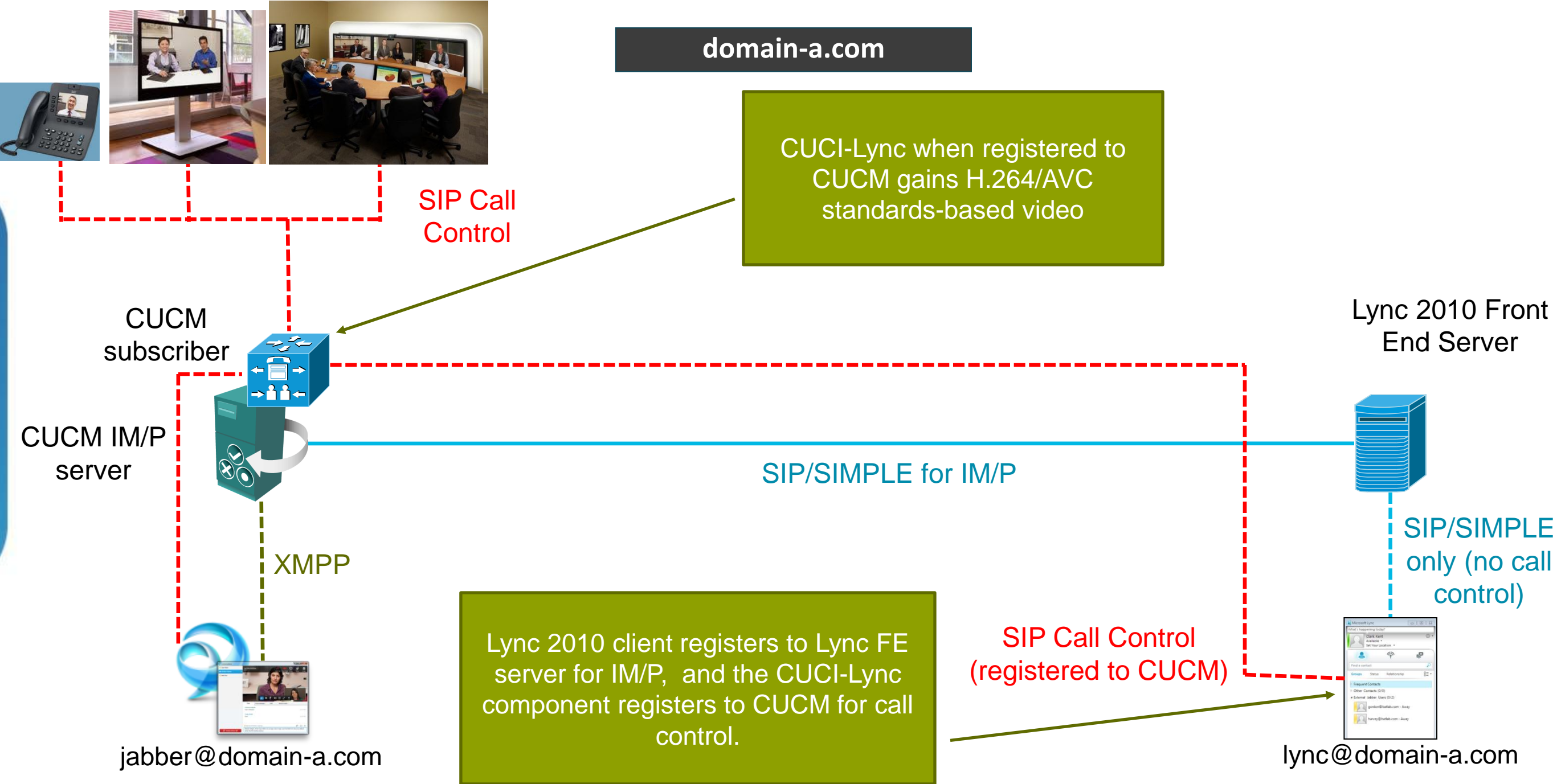
# Scenario 4

## Option 3: SIP Trunk via VCS Control



# Scenario 4

## Option 4: Cisco Unified Communications Integration for Microsoft (CUCI-Lync)



# Overview of Scenario 4 Options

Integration	Option 1	Option 2	Option 3	Option 4
Method	WebEx	Direct SIP	VCS+AMG	CUCI-Lync
Capability	Video, voice, web conf	Voice only	Video, voice	Video, voice
Considerations	Jabber user to initiate WebEx sessions	Separate call control platforms, and CAC domains	Requires different domains, separate call controls & CAC	Some user training

Source: Placeholder for Notes is 18 points



## Fundamentals

Scenario 1: Inter-Domain Federation to Jabber

Scenario 2: Inter-Domain Federation to Lync

Scenario 3: Inter-Domain Federation to Public IM

Scenario 4: Intra-Domain Federation between Jabber & Lync


**Scenario 5: Cloud WebEx Messenger Inter-Domain Federation**




# Scenario 5

## WebEx Messenger Federations

**Jabber Users**

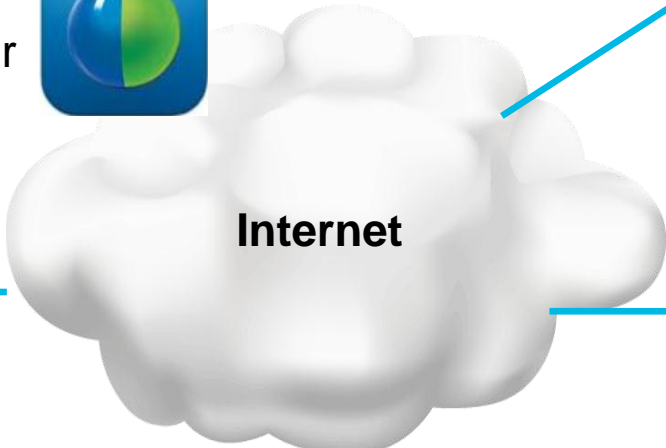


**Video / Voice**



### Cloud IM/Presence

WebEx  
Messenger



Internet

### B2B Federation to Jabber

**Jabber Users**




**Video / Voice**



### B2B Federation to Lync

**Lync Users**

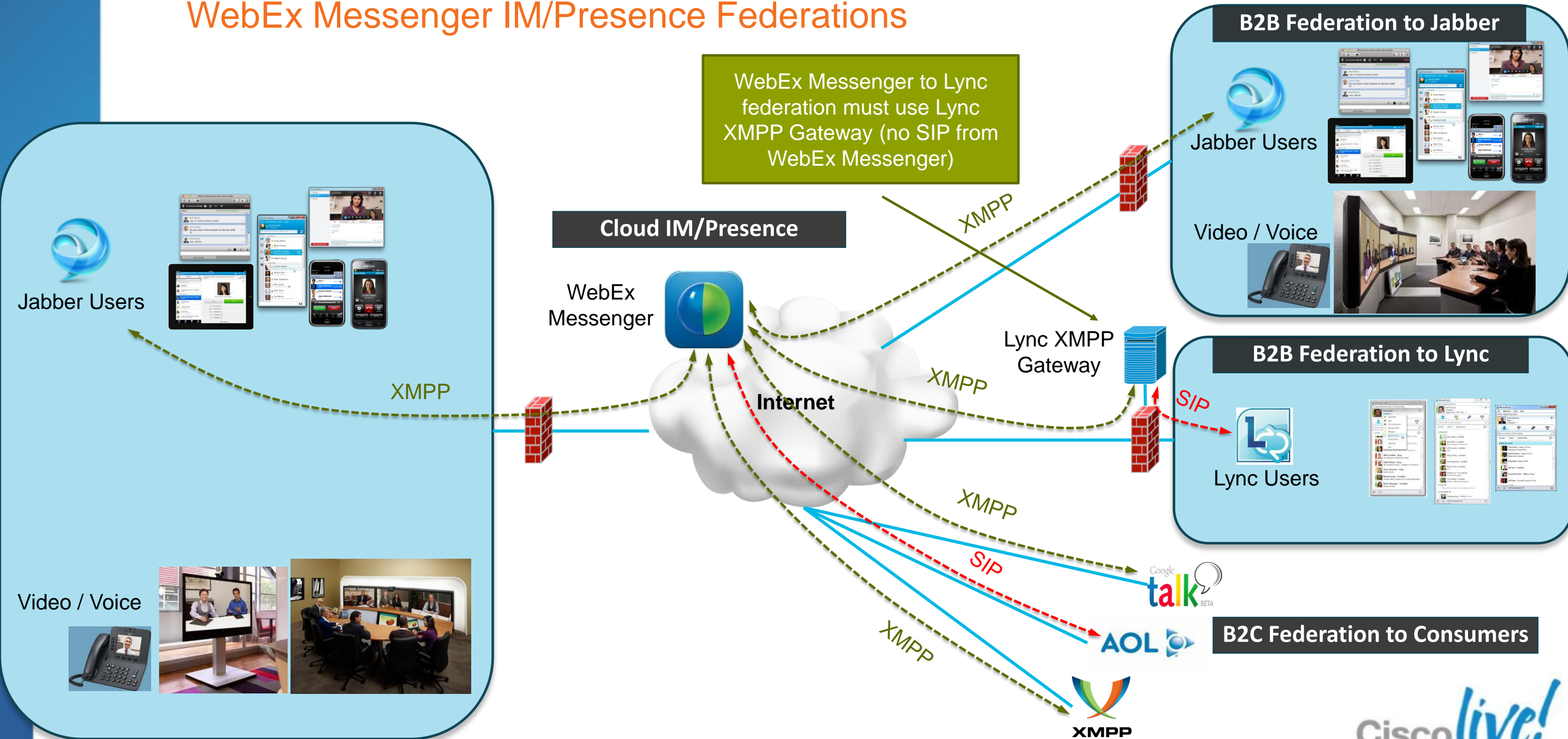


### B2C Federation to Consumers



# Scenario 5

## WebEx Messenger IM/Presence Federations



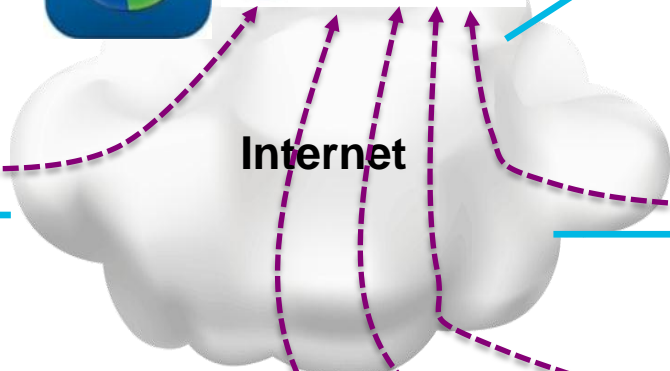
# Scenario 5

## WebEx Messenger Federation UC Workloads

WebEx MeetingCenter provides the central conferencing capability to bring any parties together with full UC

Cloud IM/Presence

WebEx Messenger



Internet

B2B Federation to Jabber

Jabber Users



Video / Voice



B2B Federation to Lync



Lync Users



B2C Federation to Consumers



Jabber Users



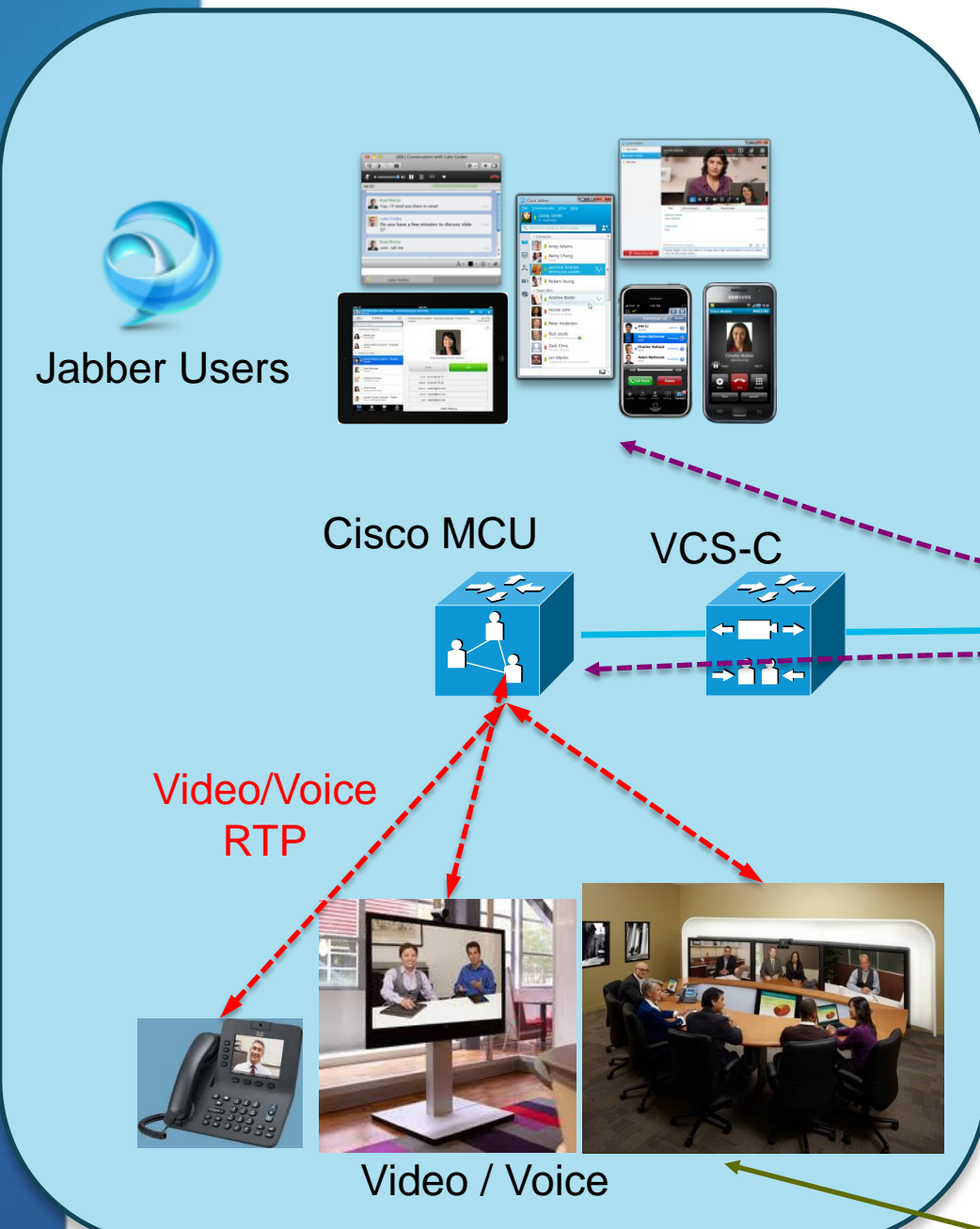
Video / Voice



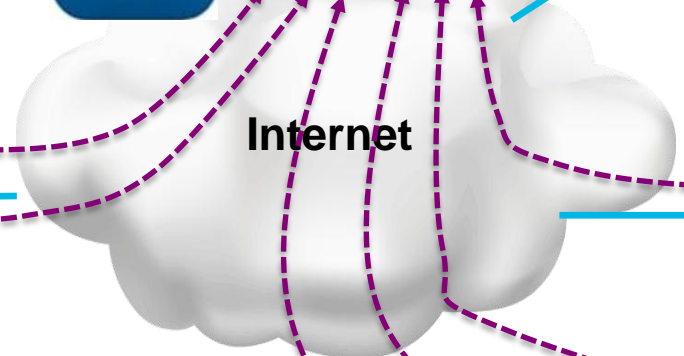
WebEx session with video, voice, web conferencing

# Scenario 5

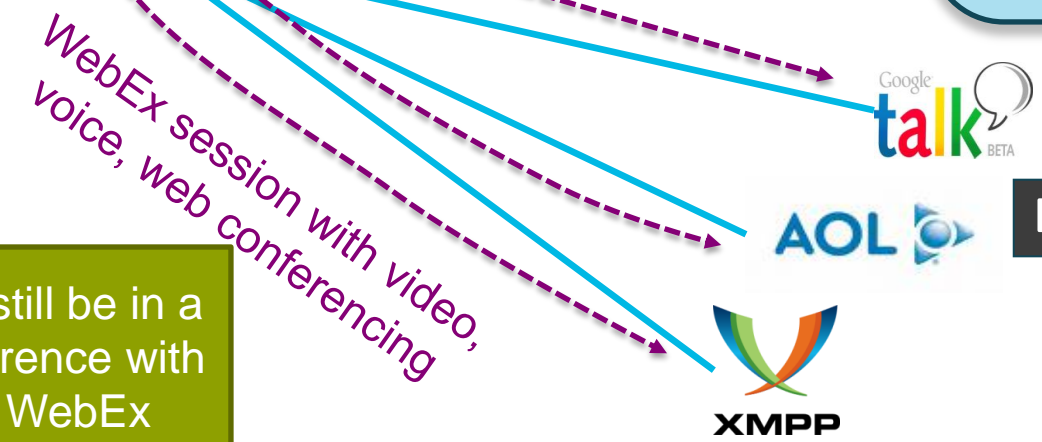
Adding in Video / Voice / TP Endpoints (Scheduled)



## Cloud IM/Presence



## B2C Federation to Consumers



Those endpoints can still be in a video/voice/web conference with federated users via WebEx OneTouch 2.0

# Federating Unified Communications

## Recap

1. Inter-Domain Jabber to Jabber



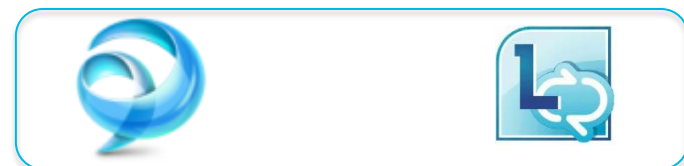
2. Inter-Domain Jabber to Lync



3. Inter-Domain Jabber to Public IM (AOL, GoogleTalk, XMPP)



4. Intra-Domain Jabber to Lync



5. Inter-Domain Cloud WebEx Messenger to Others



# Q & A



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