TOMORROW starts here.
Federating Cisco Jabber

BRKUCC-2785

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Technical Marketing Engineer
Agenda

- What is Federation
- Federation Models
- Inter-Domain Federation
- Partitioned Intra-Domain Federation
- Migration Planning & Best Practices
- Q & A
What is Federation?
What The Federation?

The path of least resistance!

Unified CM Cluster – Call Control and IM & Presence

Corporate Directory

Security, Firewall, Edge, DMZ, TLS, Ports, Contact Search

Other Vendor Server

Other Vendor Clients

Partner

Supplier

Cisco Clients

I bought all this stuff, now deploy it
Cisco Jabber Overview

All-in-one UC Application
- Presence & IM
- Voice, Video, voice messaging
- Desktop sharing, conferencing

Collaborate from Any Workspace
- PC, Mac, tablet, smart phone
- On-premises and Cloud
- Integration with Microsoft Office
Federation Protocols

- Exchange of presence and IM carried over multi-protocol options
- XMPP and SIP – dominant industry standards for federation of presence and IM services
- Unlocks many B2B and B2C federations
User Identification

- Consider your Jabber domain carefully, you'll live with it for a while!
- Multi-modal communications address (Email, IM, Voice, Video & Federation)
- User created on UC Manager (can be synced from LDAP, AD Server)
- Presence domain is configured on IM & Presence Server
Jabber ID – ‘JID’

Unified Communications Manager

Jabber User [aadams]

Jabber User [aadams@example.com]

Jabber Client

Jabber User [aadams@example.com]

The result forms the JID (JabberID) of user@jabberdomain.com
Federation Models
External Federation is the sharing of Enterprise Instant Messaging (IM) and Presence between corporate domains – further lowering the boundaries to collaboration for both B2B (Business to Business) and B2C (Business to Consumer)
Internal Federation allows for communications between other Cisco Jabber or Microsoft based domains within your enterprise.

Sub-domains, subsidiaries or partner domains that you control.
Partitioned Intra-Domain Federation is the sharing of Enterprise Instant Messaging (IM) and Presence between Unified Communication vendors within a single presence domain – this model is used as a migration tool from Microsoft to Cisco Infrastructure.
Planning Cisco Jabber Federation

Which federation model?
External Federation to a 3rd party SIP domain

Federated Vendor

- Microsoft OCS R2
- Microsoft Lync
- AOL

Can utilise XMPP if Microsoft XMPP gateway is installed
External Federation to a 3rd party XMPP domain

Federated Vendor
- GoogleTalk
- IBM Sametime
- OpenFire
- Other Cisco Jabber
- XMPP Standards based vendor
Partitioned Intra-Domain Federation to Microsoft

Known as Partitioned Intra-Domain Federation

- On-premise only
- SIP Based
- Jabber to
  - Microsoft OCS 2007 R2
  - Microsoft Lync 2010
  - Microsoft Lync 2013
External Federation
External Federation with Cisco

IM & Presence configured using inter-domain federation between the two presence domains. For larger deployments the solution scales up by enabling further IM&P nodes as XMPP Federation nodes.
External Federation with Microsoft

IM & Presence must be configured as a “Public Provider” on the “Provider” list
Check “Enable communications with this provider”
Enter <jabberdomain> as a provider name
Enter the Public FQDN of the jabberdomain
Choose “Allow all communications with this provider”

* Not configured as Federated Domain on the Edge Server
There is an option on Cisco IM & Presence to enable direct federation
There is an option on Cisco IM & Presence to enable direct federation; however, Microsoft states all federations must go through Edge Server.

**Note:** For contact lookup, the jabber-config.xml file will need to be configured using the full Jabber Identifier (JID)
External Federation – SIP (On-Premise)
External Federation – SIP Signalling Flow

• SIP Profile
• TLS Peer

IM & Presence (ABC.COM)

TLS
Initiated to federated side

Cisco ASA

ASA Initiates TLS to federated Edge

Microsoft Edge Server (DEF.COM)

Microsoft Front End

SIP

• TLS Proxy
• NAT/PAT

CUP Domain is authorized host on Edge

Upon TLS success, message reaches federated side

*LNA is required for TLS Proxy
External Federation – SIP Configuration

SIP Federation Configuration
External Federation – SIP AOL Enablement

• Add SIP AOL Domain

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.

Specify Type

- Domain Name
- Description
- Integration Type
  - Inter-Domain to AOL
External Federation – SIP Lync Enablement

• Add SIP Microsoft OCS/Lync Domain

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 * Inter-Domain to OCS/Lync
- Direct Federation

Direct Option
• No ASA
• Specific IP
Presence SIP Proxy – TLS Peer Subjects

- From SIP federation to Microsoft, enter the external FQDN of the Access Edge server in the Peer Subject Name field.
- The Value must equal that of the subject FQDN of the certificate that Microsoft Access Edge server presents.
- If federating to AOL, enter the FQDN of the AOL SIP access gateway.
- If using ASA, TLS peer subject is automatically populated when you import the trusted ASA certificate.
Presence SIP Proxy – TLS Configuration

- Add the new TLS Peer into the TLS Context Configuration
- Configuration under: Default_Cisco_UP_Proxy_Peer_Auth_TLS_Context
# Presence SIP Proxy – TLS Listeners

<table>
<thead>
<tr>
<th>Name</th>
<th>Port</th>
<th>Listener Type</th>
<th>Service</th>
<th>Transport Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default Cisco IM and Presence Service HTTP Listener</td>
<td>8082</td>
<td>HTTP</td>
<td>Cisco SIP Proxy</td>
<td>TCP</td>
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<tr>
<td>Default Cisco IM and Presence Service HTTPS Listener</td>
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<td>HTTPS</td>
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<td>TLS</td>
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<td>Default Cisco IM and Presence Service XMPP Federation Listener</td>
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<td>XMPP</td>
<td>Cisco XCP XMPP Federation Connection Manager</td>
<td>TCP</td>
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<tr>
<td>Default Cisco Presence Engine TCP Listener</td>
<td>5070</td>
<td>TCP</td>
<td>Cisco Presence Engine</td>
<td>TCP</td>
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<tr>
<td>Default Cisco Presence Engine UDP Listener</td>
<td>5070</td>
<td>UDP</td>
<td>Cisco Presence Engine</td>
<td>UDP</td>
</tr>
<tr>
<td>Default Cisco SIP Proxy TCP Listener</td>
<td>5060</td>
<td>TCP</td>
<td>Cisco SIP Proxy</td>
<td>TCP</td>
</tr>
<tr>
<td>Default Cisco SIP Proxy TLS Listener - Peer Auth</td>
<td>5062</td>
<td>TLS</td>
<td>Cisco SIP Proxy</td>
<td>TLS</td>
</tr>
<tr>
<td>Default Cisco SIP Proxy TLS Listener - Server Auth</td>
<td>5061</td>
<td>TLS</td>
<td>Cisco SIP Proxy</td>
<td>TLS</td>
</tr>
<tr>
<td>Default Cisco SIP Proxy UDP Listener</td>
<td>5060</td>
<td>UDP</td>
<td>Cisco SIP Proxy</td>
<td>UDP</td>
</tr>
</tbody>
</table>

**Default Federation TLS port**
Presence SIP Proxy – TLS ACLs

- When SIP SUBSCRIBES are received on port 5062, the presence SIP proxy will reverse lookup incoming IP’s OR
- Verify against ACL’s
- If both of these points fail, it will result in a “407 Proxy Authentication Required” in the presence SIP proxy logs
Adaptive Security Appliance (ASA)

- Cisco’s DMZ security product
- Static Routes (Next HOP)

```bash
hostname(config)# route inside dest_ip mask gateway_ip
hostname(config)# route outside dest_ip mask gateway_ip
```

- NAT

```bash
host <private cup address>
nat (inside, outside) dynamic
<public cup address>

object network my_inside
    subnet 0.0.0.0 0.0.0.0
    nat (inside, outside) dynamic
    interface
```
Adaptive Security Appliance (ASA) - Configuration

• PAT (direct federated traffic to presence port 5062)

```bash
Object network obj_host_<public cup ip address>(e.g. object network obj_host_10.10.10.10)
host <public cup ip address>

object network obj_host_<routing cup private address>
host <routing cup private address>

object service
obj_top_source_eq_5061
service tcp source eq 5061

object service
obj_top_source_eq_5062
service tcp source eq 5062

nat (inside,outside) source static
obj_host_<routing cup private address> obj_host_<public cup ip address> service
obj_top_source_eq_5062
obj_top_source_eq 5061
```

• TLS-Proxy
  – Create Access Control List
  – Create TLS –Proxy Instance
  – Associate ACL’s with TLS-Proxy Instance
  – Configure Certificates
  – Enable Proxy
DNS SRV – SIP Federation

- Service Type
- SIP Port
- FQDN of host offering SIP Service
SIP Federation Routing High Availability – Hardware

- Single SRV entry for “Routing node”
- No support for DNS SRV Round Robin
  - Microsoft LCS
  - Microsoft OCS
SIP Federation Routing High Availability - SRV

- Lync 2010 introduced support for DNS SRV Round Robin

- FQDN
- SRV
- Multiple IP’s
External Federation – XMPP (On-Premise)
External Federation – XMPP Signalling Flow

XMPP Node status enabled

TLS Initiated to federated side

Connection is secured over TLS

IBM Gateway Server (DEF.COM)

Upon TLS success, message reaches federated side

IMP (ABC.COM)

Cisco ASA

XMPP

TLS connection will be passed through port

XMPP Node Status is enabled

IBM Lotus Sametime Server

IBM Sametime

*TLS is optional. With No TLS selected, regular TCP will follow this path.

ASA is optional for XMPP Inter-Domain Federation. Generic Firewall will suffice.
External Federation – XMPP Configuration

SIP Federation Configuration
• Settings
• Policy
External Federation – XMPP Enablement

• To begin XMPP federation, enable XMPP federation Connection Manager from the serviceability GUI

• Next, turn ‘on’ ‘XMPP Federation Node Status’ from Presence -> Inter-Domain Federation -> XMPP Federation -> Settings
Security - XMPP

• Once XMPP Federation is enabled, you must select your security type

• No TLS – Server Dialback will be attempted

• TLS Optional – Will first try TLS, on failure, will fall-back to Server Dialback

• TLS Required – Will only accept TLS requests

• SASL – Additional authentication required by some IM vendors (i.e. IBM)

• Dialback Secret – is an arbitrary shared password
Adaptive Security Appliance

- Sample configuration of XMPP traffic thru public IP of presence server to private IP of presence server

```plaintext
nat (inside, outside) source static obj_host_<private cup1 IP>
obj_host_<public cup IP> service obj_udp_source_eq_5269
obj_udp_source_eq_5269
nat (inside, outside) source static obj_host_<private cup1 IP>
obj_host_<public cup IP> service
obj_tcp source eq 5269 obj_tcp source eq 5269
```
DNS SRV – XMPP Federation

Service Type

XMPP Port

FQDN of host offering XMPP Service
XMPP Federation Routing High Availability

• XMPP supports DNS SRV Round Robin

*TLS is optional. With No TLS selected, regular TCP will follow this path. ASA is optional for XMPP Inter-Domain Federation. Generic Firewall will suffice.
Use of email-ID for federation

- Applies to both XMPP and SIP
- If emailID differs from JID, and your organization wants to federate using your email identity – enable this option
- This will mask your JID to federated contacts
- This will map your emailID to JID inbound
External Federation – XMPP (WebEx Messenger)
External Federation – XMPP

‘Inter-Domain Federation’ in the cloud is configured from the Organisation Administration Tool.

TLS is not supported in the cloud, all communication is over TCP.

To enable Inter-domain federation in the cloud, simply publish the DNS SRV records to point at your federation service.

For AOL Federation, this needs to be ordered; the Jabber cloud provisioning team will then configure it.

FQDN of host offering XMPP Service

XMPP Port

Service Type
Federated Compliance - Cloud

- Federated compliance may also be achieved via WebEx Messenger.
Other Public IM Vendors
B2C Vendors

- Cisco Federations are free of charge
- Google Talk is also supported and free
- AOL charges $12 per user for federation service (OSCAR)
- **Skype**: Discussions underway – this is now part of Microsoft relationship
- **MSN**: MSN being deprecated
- **Yahoo IM**: YahooIM is a locked down federation service. (MSFT Dropping support)
Clearinghouse Vendor

• Nextplane is a third party service that provides additional federation capabilities
• Clearinghouse “UC Exchange”
  – Directory Member vs. Community member
• Federation to other vendors on Nextplane
• Integration to Social Media (Yammer, Chatter, Twitter)
• Consider $$$ - To select a federation
• www.nextplane.net
"Direct" Inter-domain federation

Organizations with both Cisco and Microsoft deployed throughout different subdomains

There is an option to establish ‘direct’ federation between both environments

For contact lookup, jabber-config.xml will need to be configured to add contact using full JID (Jabber ID)
Jabber sub-domains

Organizations with both Jabber deployed throughout different sub-domains

There is an option to establish XMPP federation between both environments

For contact lookup, jabber-config.xml will need to be configured to add contact using full JID (Jabber ID)

Only do this if Inter-Cluster is not an option
Both Jabber and Lync have full contact search


Both servers are listening on TLS port 5061 (TCP)

Lync adds IM & Presence for host authorization (FQDN / IP)
Both Federation Models

Example.com

Both Jabber and Lync have full contact search

DNS Records (recommended) or SIP Static Route

Unified CM IM & Presence

Xmpp

Jabber

Lync

Sip

Microsoft Front End

External SIP Federated Enterprise

External XMPP Federated Enterprise

IM&P Users Only

IM&P & Lync Users
Migration to a Jabber Environment – Why?

• Customers have some form of IM today
  • Consumer IM
  • Microsoft IM (OCS, Lync)
  • IBM Sametime IM

• Why do customers want to migrate to Jabber
  • Provide a full UC client – Voice, Video, IM, Presence on any device
  • Interworking with a Cisco Unified CM environment - Click-2-Call, phone presence, etc.
  • Need enterprise features – compliance, security, persistent chat, federations, etc.
Migration to a Jabber Environment – How?

• Flash Cut
  • End user “leaves on Friday using the old client, when they come in on Monday, they uninstall the old client and download the new client” or it is done automatically using software management.

• Parallel Deployment
  • End user running the old client installs the new client in parallel
  • IT sends out a notice that on certain date the old client will no longer be supported

• Slow Roll
  • Involves having both environments interacting with each other via federation
  • Issues with migrating contacts (also needed for flash cut and parallel), setting up routing between environments, and keeping contacts current at each step of the migration
  • The most challenging, but what most customers expect
Plan migration carefully!

When planning partitioned Intra-Domain Federation, what should I look out for?

When userID’s are synced from LDAP, Unified CM / IM & Presence will support:

- sAMAccountName
- UserPrincipleName (UPN)
- Email Address
- employeeNumber
- telephoneNumber

**Consideration**

Email address can be mapped to Unified CM userID, that does not mean that userID equals email address. It will become <emailaddress>@<presencedomain>, e.g. bobjones@bar.com@example.com
Migration Recommendations

Perform the following tasks before you begin to migrate users from Microsoft Lync to Cisco IM & Presence:

- Set unlimited contact lists and watchers on Cisco IM & Presence
- Enable automatic authorization of subscription requests on Cisco IM & Presence
- Disable new subscriber notification popups on Microsoft Lync

Cisco IM & Presence URIs are composed by:

- Joining the Unified CM userID with the IM&P domain as follows: `<userid>@<domain>`
- DirectoryURI which allows for IM&P addresses to be synced from the Lync SIP URI

If any Microsoft Lync URIs do not match the format `<userid>@<domain>`, you must modify the URIs **before** migrating users

http://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cucm/im_presence/intradomain_federation/10_0_1/CUP0_BK_I264FBF0_00_integration-guide-intradomain-federation-100/CUP0_BK_I264FBF0_00_integration-guide-intradomain-federation-100_chapter_0111.html
Migration Tools

1: ExportContacts.exe
2: DisableAccount.exe
3: DeleteAccount.exe

Example.com

Unified CM IM & Presence

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server
Migration Process – Export Contacts

Unified CM IM & Presence

Example.com

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

ExportContacts.exe

ExportedContacts <Timestamp>.csv

UserList <Timestamp>.txt

ExportedContactsLog.txt

User Input File
Export Contacts

**Migration Utility:** ExportContacts.exe – Run on the Front End Server to allow you to export contact lists in bulk from Microsoft Lync for migrating users.

**Command Line:** ExportContacts.exe -s/LDAPServer -f/input_file -l/logLevel -d/Domain -r/run_mode -i/database_instance

where input_file can use one of 3 formats: Microsoft Server SIP URI (sip:userid@example.com), Users by Organization Unit in AD (DN: OU=firstOU,DC=example,DC=com), or IM & Presence Service User IDs (UserID,Subcluster Name,Node Name)

**Output:** ExportedContacts<Timestamp>.csv & UserList<Timestamp>.txt

**Time Planning:** Contacts can be exported from Microsoft Lync at an average rate of 800 contacts per second (or 48,000 contacts per minute).

\[ Time \text{ to export contacts (mins)} = \frac{(\text{Number of Microsoft server users} \times \text{Average Contact List Size})}{48000} \]

**Notes:** Recommended to run this tool during a scheduled maintenance window.
Migration Process – Disable Accounts

Example.com

Unified CM IM & Presence

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

ExportContacts.exe

ExportedContacts.csv

UserList<Timestamp>.txt

ExportedContactsLog.txt

DisableAccount.exe

DisableAccountLog.txt

ExportedContacts<Timestamp>.csv

User List<Timestamp>.txt
Disable Accounts

**Migration Utility:** DisableAccount.exe – Run on the Front End Server to allow you to disable the Microsoft Lync account of migrating users

**Command Line:** DisableAccount.exe -s/LDAPServer -f/input_file -l/logLevel
where input_file is recommended to be the UserList<Timestamp>.txt file from the export contact

**Output:** DisableAccountLog<Timestamp>.txt

**Time Planning:** Microsoft Lync accounts can be disabled at an average rate of 13 accounts per second (or 800 accounts per minute).

\[
\text{Time to disable accounts (mins)} = \frac{\text{Number of Microsoft server users}}{800}
\]

**Notes:**
- Read/Write permissions to AD are required to run this tool.
- Before proceeding with the Delete utility, the Microsoft server LDAP changes need to be synched. The synchronization may take up to 30 minutes depending on your Microsoft server deployment.
Migration Process – Delete Accounts

Example.com

Unified CM IM & Presence

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

ExportContacts.exe

UserList<Timestamp>.txt

ExportedContacts<Timestamp>.csv

DisableAccount.exe

DisableAccountLog.txt

DeleteAccount.exe

ExportedContactsLog.txt

User Input File

ExportedContactsLog.txt

UserList<Timestamp>.txt

ExportedContacts<Timestamp>.csv
Delete Accounts

Migration Utility: DeleteAccount.exe – Run on the Standard Server or Enterprise Pool to allow you to delete migrating users from Microsoft Lync so that availability requests for these users are later routed to Cisco IM & Presence

Command Line: DeleteAccount.exe -s/database_instance -f/input_file -l/logLevel
where input_file is recommended to be the UserList<Timestamp>.txt file from the export contact

Output: DeleteAccountLog<Timestamp>.txt

Time Planning: Microsoft Lync can delete accounts at an average rate of 13 accounts per second (or 800 accounts per minute).
Time to delete accounts (mins) = Number of Microsoft server users / 800

Notes: - Read/Write permissions to the Microsoft Server database are required
- Recommended to run this tool during a scheduled maintenance window
Migration Process – Import Contacts

Example.com

Unified CM IM & Presence

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

Import Contacts

ExportContacts.exe

ExportedContacts <Timestamp>.csv

UserList<Timestamp>.txt

UserInput File

DisableAccount.exe

DisableAccountLog.txt

DeleteAccount.exe

DeleteAccountLog.txt

ExportedContactsLog.txt

ExportedContactsLog.txt

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

Import Contacts

ExportContacts.exe

ExportedContacts <Timestamp>.csv

UserList<Timestamp>.txt

UserInput File

DisableAccount.exe

DisableAccountLog.txt

DeleteAccount.exe

DeleteAccountLog.txt

ExportedContactsLog.txt

ExportedContactsLog.txt
Bulk Administration Tool Import Contacts

**Migration Utility:** Allows you to import contact lists to IM & Presence in bulk from the CSV file generated from the ExportContacts.exe utility for migrating users.

**Notes:** Users must be fully deleted from Microsoft Server, and they must be provisioned, licensed, and assigned to the IM & Presence service on Unified CM.
Migration Process – Rename Contacts

Example.com

Unified CM IM & Presence

DNS Records (recommended) or SIP Static Route

Microsoft Lync Server

BAT Rename Contacts

User Input File

ExportedContacts <Timestamp>.csv

ExportContacts.exe

UserList<timestamp>.txt

DisableAccount.exe

DisableAccountLog.txt

DeleteAccount.exe

DeletedAccountLog.txt
Bulk Administration Tool Rename Contacts

**Migration Utility:** Allows you to rename contacts to IM & Presence in bulk from the CSV file generated from the ExportContacts.exe utility for migrating users.

**Notes:** The rename contact utility is needed during phased migrations if users are being renamed on Lync as they migrate to IM&P. This utility updates any existing IM&P contacts to reflect these renamed users.
Importance of migration planning
UserID Mismatch

This user ID format mismatch will cause issues!

- Buddy lists are populated with both ID formats
- If using step by step migration, some buddy list entries become redundant as Lync users are migrated to IM & Presence

Example.com

<table>
<thead>
<tr>
<th>Jabber</th>
<th>XMPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified CM IM &amp; Presence</td>
<td>sAMAccountName: <a href="mailto:userid@example.com">userid@example.com</a></td>
</tr>
<tr>
<td>Lync</td>
<td>CSIP-PrimaryUserAddress: <a href="mailto:user.id@example.com">user.id@example.com</a></td>
</tr>
</tbody>
</table>

Both Jabber and Lync have full contact search.
Importance of migration planning
User Normalization 8.x & 9.x

- Users should be normalized before they are migrated
- This approach ensures buddy list continuity during stepwise migration

Both Jabber and Lync have full contact search
Importance of migration planning
User Normalization 10.x

• Unified CM IM & Presence 10.x introduces support for DirectoryURI as an option for IM Address (mail or msRTCSIP-PrimaryUserAddress AD attribute)

• **NOTE:** **ALL Clients in the deployment require support for DirectoryURI**
Know your domains

Deployment of a single domain via Default Domain or multiple domain via DirectoryURI

**IM and Presence Service Default Domain:** cisco.com  
**User:** John Smith  
**Userid/sAMAccountName:** js12345  
**mailid:** jsmith@cisco-sales.com  
**SIP URI:** john.smith@webex.com

<table>
<thead>
<tr>
<th>IM Address Format</th>
<th>Directory URI Mapping</th>
<th>IM Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>User_id@default_domain</td>
<td>N/A</td>
<td><a href="mailto:js12345@cisco.com">js12345@cisco.com</a></td>
</tr>
<tr>
<td>Directory URI</td>
<td>mailid</td>
<td><a href="mailto:jsmith@cisco-sales.com">jsmith@cisco-sales.com</a></td>
</tr>
<tr>
<td>Directory URI</td>
<td>msRTCSIP-PrimaryUserAddress</td>
<td><a href="mailto:John.smith@webex.com">John.smith@webex.com</a></td>
</tr>
</tbody>
</table>
## Cisco / Microsoft Supported Deployments

<table>
<thead>
<tr>
<th>IM &amp; Presence</th>
<th>OCS 2007 R2</th>
<th>Lync 2010</th>
<th>Lync 2013</th>
</tr>
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<tbody>
<tr>
<td>8.6(5)+</td>
<td>RCC Inter-Domain Intra-Domain</td>
<td>RCC Inter-Domain Intra-Domain</td>
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<tr>
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<td>RCC Inter-Domain Intra-Domain</td>
<td>RCC Inter-Domain Intra-Domain</td>
<td>RCC Inter-Domain Intra-Domain</td>
</tr>
</tbody>
</table>

Supported

*Under Test – based on a backlog priority*
Session Recommendations

- BRKUCC-2086 - Extend The Reach of Cisco Video Solution with Jabber Guest
- BRKUCC-2344 - Deploying Cisco Jabber On Mobile Devices
- BRKUCC-2345 - Cisco Jabber: Deploying Cisco Jabber On Premise
- BRKUCC-2355 - Troubleshooting Jabber Like a TAC Engineer
- BRKUCC-2801 - Cisco Expressway at the Collaboration Edge
- BRKUCC-2933 - Enabling Cisco Jabber for Virtual Environments
- BRKCDN-2974 - Jabber SDK for Web
- BRKCOL-2020 - Cisco Interoperability with Microsoft
- LTRUCC-1300 - The Ultimate Jabber & Presence Lab
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- Table Topics
- Meet the Engineer 1:1 meetings
Thank you.