**Cisco-UDS API for TMS Phonebook**

**Installation and configuration manual**

# Introduction

This ASP.NET C# (.NET 4.0) application objective is to add UDS API for TMS Phonebook. It's basically a UDS wrapper for TMS Phonebook.

It has been written on C# using VS2012 Express Web Edition by Ahmad BARRIN, CCIE Collaboration #27421 in France.

I work on many Cisco large-scale projects and face a case where a customer using TMS as a video directory source for all his video infrastructure planed to migrate from old Jabber Video (VCS) to the new Jabber client (CUCM). This application has been made to maintain TMS directory and give access to it to new Jabber client.

Caution : This application has been made recently and haven't been fully tested yet.

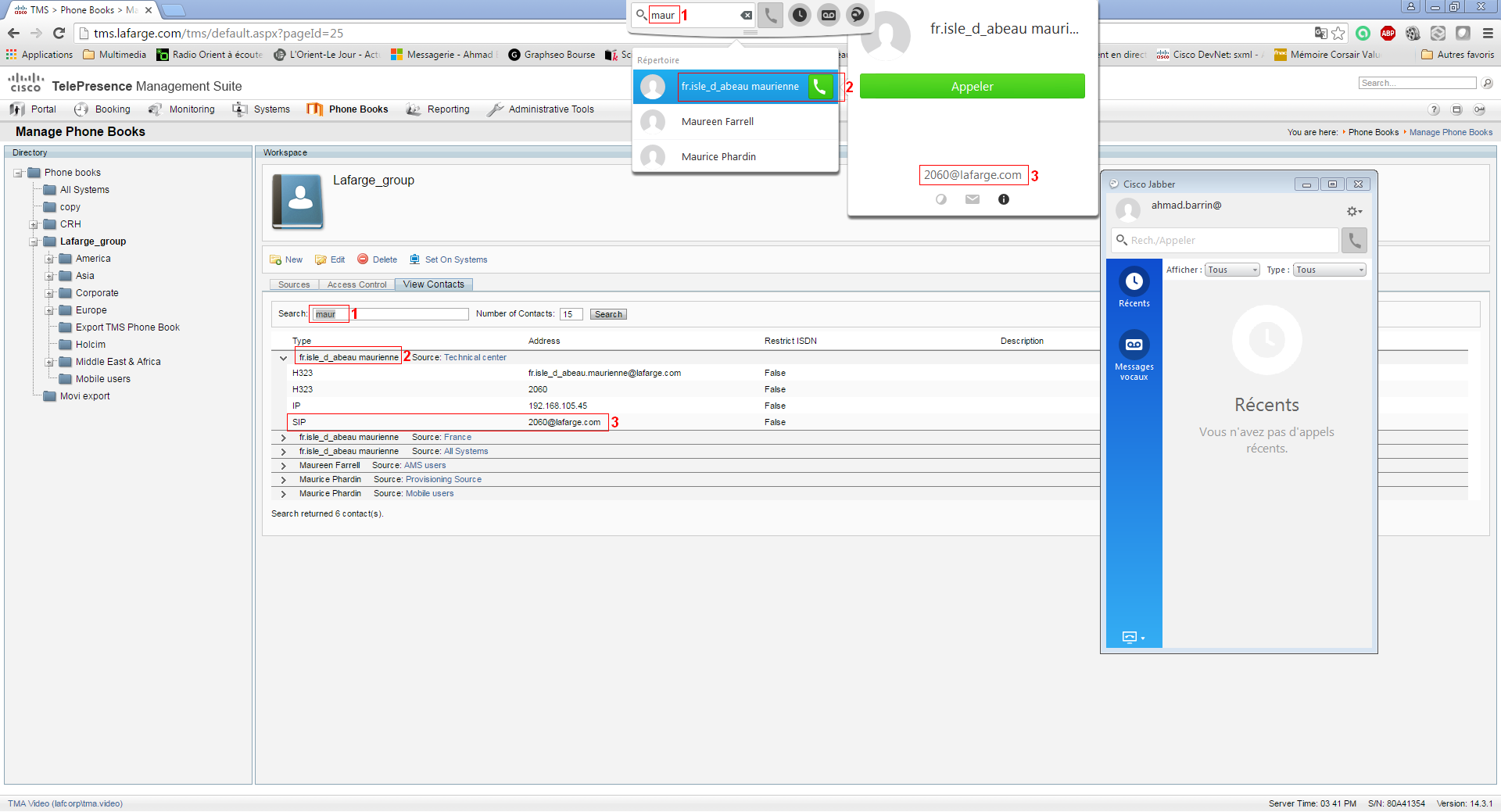
TMS phonebook provides Directory Feature to :

* Tandberg legacy and Cisco video Endpoint (for CE & TC software endpoints)
* Jabber Video software client (ex: Movi)
* Polycom endpoint (Polycom GAB like Phonebook)

With this new web application TMS will also give UDS like phonebook. It's especially necessary for Jabber client. Actually Old Jabber Video (ex: Movi) is already EoS, and replacement is Jabber. Unlike Jabber Video , Jabber only understand UDS or LDAP Directory. This application main objective is to provide Jabber backward compatibility for TMS Phonebook.

Bellow is an usage example :

* One user search for "maur" on Jabber
* we see on TMS web page, 3 results displayed on jabber is exactly results we have on TMS Phonebook administration page. In another way, with this application jabber users and all video endpoint (VCS or CUCM registered) can have the same directory source ie the TMS



# How it works

UDS is a Cisco web API running on CUCM. Cisco UDS is a documented API and some third-party products already implemented UDS to give Jabber external custom directory support.

This application implements a subset of UDS API, only what is necessary to make Jabber works perfectly with it.

When application receives UDS user search query from Jabber it just convert it in TMS SOAP format and send it TMS Phonebook server. Then TMS return Search result back to application that convert it back in UDS format and send it back to client (Jabber).

# Installation

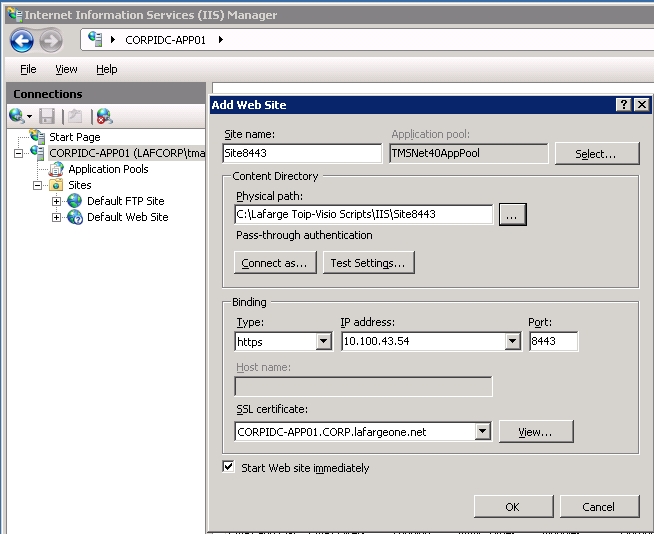
UDS for TMS Phonebook is a application in ASP.NET C# (.NET 4.0). It's the same language as TMS Web component, so this application may be collocated with TMS.

If you have a TMS with IIS, no additional requirement on IIS is needed.

If you planed to installed it to a dedicated web server, just used W2008R2 or 2012 and install IIS with same role and feature of your TMS (don't forget to install .NET 4.0 and register ASP.NET to use it).

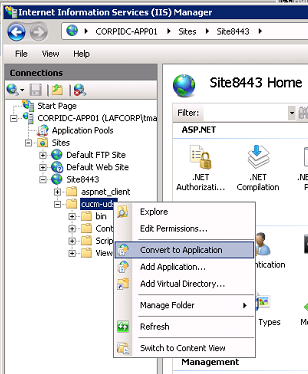
## IIS Site creation :

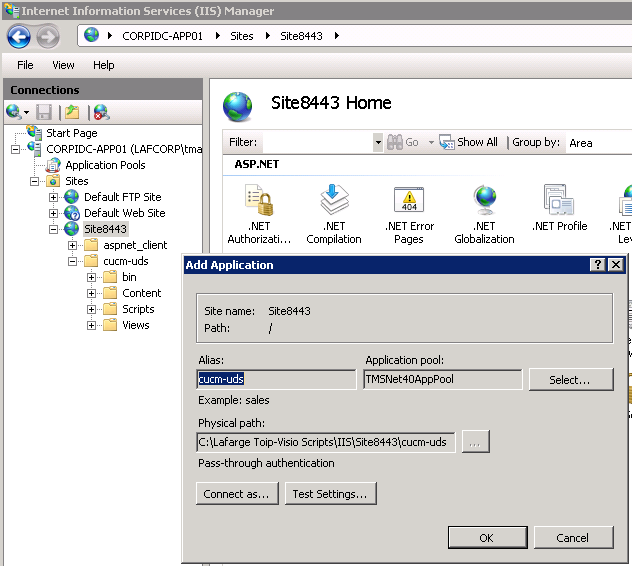
* copy "binaries" folder content in a existing or new folder on web server (example existing diectory "C:\inetpub\". This will make application appears in "C:\inetpub\Site8443\cucm-uds\").
* Open "IIS Manager"
* in Sites > right click "Add Web Site..."
* Application pool on a TMS server choose "TMSNet40AppPool"
* Physical path : path to "Site8443" folder
* Type : "https:"
* Port : "8443"



Then click "OK".

Then unfold "Sit8443" and right click to "cucm-uds" and choose "Convert to Application..." (this will convert IIS folder to a ASP.NET application)





## Get TMS information

This application need a TMS device account to impersonate phonebook query. We just need to pick a video endpoint from System>Navigator. Pick an endpoint you're sure directory search is working fine and have access to all expected contacts.

When you'll define this endpoint in application configuration, all Jabber UDS queries will be seen as coming from this endpoint from TMS perspective.

**Find a video endpoint on TMS :**

* Go to TMS administration page
* Go to Systems > Navigator and pick a video device
* On central panel, you'll see endpoint detail. Go to "Settings" tab.
* Write down "Name" and "MAC Address"
* Go to "Phone Books" tab and ensure endpoint have one phonebook configured.

## Application configuration (web.config) :

In "Site8443\cucm-uds\" open on a text editor file "Web.config".

in "<appSettings>" tags you'll noticed some CUCM-related and TMS-related configuration.

<add key="SERVER\_IP" value="xxx.xxx.xxx.xxx" />

Put here server IP address where this web application is running (later on called UDS-TMS\_SERVER\_IP)

<add key="TMS\_SERVER" value=" xxx.xxx.xxx.xxx " />

Put here TMS Server IP address (where IIS and Phonebook API is running). It will be the same as above if you've collocated CUCM-UDS with TMS

<add key="TMS\_SYSTEM\_NAME" value="xxxx" />

Put "Name" field you have found on TMS in previous section

<add key="TMS\_MAC\_ADDRESS" value=" xxxx " />

Put " MAC Address" field you have found on TMS in previous section

**Optional parameters :**

<add key="SEARCH\_MAX\_RESULT\_SIZE" value="64" />

Put here maximum records Jabber or UDS client may request in one time. (if not set default is " 32")

<add key="UDS\_CUCM\_VERSION" value="10.5.2" />

you may customized this but normally it's not needed. (if not set default is "10.5.0")

## Test Application :

1. On server itself, open a web browser type : "https://UDS-TMS\_SERVER\_IP:8433/"

It should return "IIS7 welcome page" logo

1. On your local PC, open a web browser type : "https://UDS-TMS\_SERVER\_IP:8433/"

It should return "IIS7 welcome page" logo as well

1. On your local PC, you can type "https://UDS-TMS\_SERVER\_IP:8443/cucm-uds/version"

It should return CUCM version 10.5.2 (based on web.config parameter)

If Test n°1 or 2 is not working and "Windows Firewall" is enabled, it mean you probably need to open port 8443 . Follow this procedure :

* Windows 7/2008 : In **Start**, **Search**, you can type **Windows Firewall**. Select **Windows Firewall with Advanced Security**.
* In Advanced Settings in the left-hand pane, click **Inbound Rules**. In the Actions pane on the right, click **New Rule**:
* Check **TCP**, check**Specific local ports**, enter **8443**, and click **Next**:
* Click **Allow the connection** and click **Next**:
* Check your networks. In my environment, I checked all options. Click **Next**:
* Enter a rule name and click **Finish**. (example **WWW(8443)**)

# Cisco Configuration

## CUCM

1. Create or Edit "Service Profile" (User Management > User Settings > Service Profile)

On Service Profile enable checkbox "Use UDS for Contact Resolution" and click "Save"

1. Edit jabber-config.xml (or create XML Group configuration file and use " Cisco Support Field" on CSF device configuration page). Then on this XML file specify where IIS Cisco-UDS API for TMS is located.

Specify at least "DirectoryServerType" and "UDSServer" XML tags.

Refer to this minimal XML example bellow :

<?xml version="1.0" encoding="UTF-8"?>

<config version="1.0">

<Directory>

<DirectoryServerType>UDS</DirectoryServerType>

<UdsServer>**UDS-TMS\_SERVER\_IP**</UdsServer>

</Directory>

</config>

1. Assign "Service Profile" and XML configuration file for all Jabber users expecting TMS phonebook search.

That's all !

Now you just have to start jabber client and start doing a search and it should give contact you've in your TMS (just like my first screenshot in this document). you'll also see in Jabber Help > Show Connection Status, Directory is connected to IIS server hosting CUCM-UDS API for TMS.