

DNS SRV in CUCM for IM & Presence Service Configuration Example



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Introduction

This document describes the configuration of the Cisco Unified Communications Manager (CUCM) SPA Interface Processor (SIP) Trunk with the Domain Name System Server (DNS SRV) record of the IM & Presence.

For High Availability purposes, multiple IM & Presence server node destinations are configured in the IM & Presence Publish trunk of CUCM. A maximum of 16 destination IP addresses can be added in the SIP Trunk configuration. However, administrators prefer the use of SRV records instead of IP addresses, as SRV records are easier to manage. SRV records are populated in the DNS server, and thus centralized management is achieved when you point the SIP trunk destination to the DNS SRV record.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- DNS SRV
- Cisco IM & Presence Server
- Cisco Unified Communications Manager

Components Used

The information in this document is based on these software and hardware versions:

- Active Directory 2008 and later
- CUCM Version 10
- IM & Presence Server Version 10

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Configure

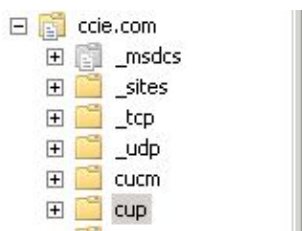
Note: Use the Command Lookup Tool (registered customers only) in order to obtain more information on the commands used in this section.

Configure the DNS Server

Complete these steps in order to configure the DNS server:

1. Create two DNS sub-domains under the main DNS domain – one domain will be used by SRV queries from the CUCM server and the second domain will be queried by the IM & Presence server.

In this example, the CUCM and IM & Presence sub-domains were created in the test lab for demonstration.



2. Add these SRV entries in the DNS server in this exact format:

- ◆ `_sip._tcp.subdomain1.domain`
- ◆ `_sip._tcp.subdomain2.domain`

In the test lab, the domains are:

- ◆ `_sip._tcp.cup.ccie.com`
- ◆ `_sip._tcp.cucm.ccie.com`

3. Verify if the SRVs are resolvable from the network. The DNS server IP address and domain name should be configured in the Unified Communications servers.

In order to verify SRV lookup from a Microsoft Windows command prompt, enter the ***nslookup*** command.

```
nslookup
set type=svr
sip._tcp.cup.domain.com
```

For example, refer to this code example:

```

C:\Windows\system32\cmd.exe - nslookup
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\admin>nslookup
Default Server: win-9fgn88r69f5.ccie.com
Address: 10.106.89.210

> set type=svr
> set timeout=120
> _sip._tcp.cucm.ccie.com
Server: win-9fgn88r69f5.ccie.com
Address: 10.106.89.210

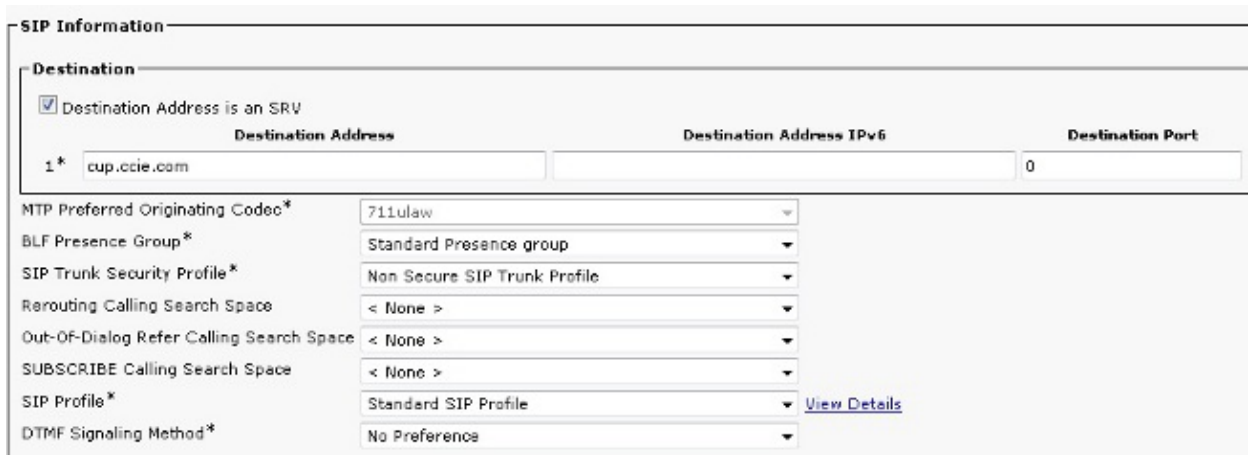
_sip._tcp.cucm.ccie.com SRV service location:
        priority      = 0
        weight         = 0
        port           = 5060
        svr hostname   = 10.106.89.221
> _

```

Configure the CUCM Server

Complete these steps in order to configure the CUCM server:

1. Create a SIP Trunk in CUCM. Add the SRV record in the SIP trunk's destination address field as shown here:



SIP Information

Destination

Destination Address is an SRV

Destination Address	Destination Address IPv6	Destination Port
1* cup.ccie.com		0

MTP Preferred Originating Codec* 711ulaw

BLF Presence Group* Standard Presence group

SIP Trunk Security Profile* Non Secure SIP Trunk Profile

Rerouting Calling Search Space < None >

Out-Of-Dialog Refer Calling Search Space < None >

SUBSCRIBE Calling Search Space < None >

SIP Profile* Standard SIP Profile [View Details](#)

DTMF Signaling Method* No Preference

Note: Only the *subdomain.domain* part of the SRV record should be added here. The CCM service prefixes *_sip._tcp* to the SRV request when it generates the request.

2. Save the SIP Trunk configuration.
3. Reset the SIP Trunk. Now the CUCM server forwards a DNS SRV query to the DNS server as shown here.

```

264 71836.00862 10.106.89.221 10.106.89.210 DNS standard query SRV _sip._tcp.cup.ccie.com
278 71841.01357 10.106.89.221 10.106.89.210 DNS standard query SRV _sip._tcp.cup.ccie.com
283 71842.11424 10.106.89.210 10.106.89.221 DNS standard query response SRV 0 0 5060 10.106.89.222
301 71853.84494 10.106.89.221 10.106.89.210 DNS standard query SRV _sip._tcp.cup.ccie.com
307 71854.31020 10.106.89.221 10.106.89.210 DNS standard query SRV _sip._tcp.cup.ccie.com
316 71894.26307 10.106.89.210 10.106.89.221 DNS standard query response SRV 0 0 5060 10.106.89.222

```

4. Configure the SIP trunk as **IM and Presence Publish Trunk** in the CCM Service Parameter configuration page.



IM and Presence Publish Trunk IMP-trunk

Configure the IM & Presence Server

Complete these steps in order to configure the IM & Presence server:

1. From the IM & Presence server administration page, select **Presence > Presence Gateway**. Configure a CUCM PRESENCE gateway as shown here.

Presence Gateway Configuration

Save Delete Add New

Status: Ready

Presence Gateway Settings (Cisco Unified Communications Manager)

You can configure a Cisco Unified Communications Manager server as a presence gateway. The IM and Presence Service will then trigger the Cisco Unified Communi

Presence Gateway Type* CUCM

Description* CUCM

Presence Gateway* _sip_top.cucm.ocsie.com

Save Delete Add New

This configuration specifies the servers from where Phone presence is accepted.

Note: The complete name of the CUCM SRV record should be added in the Presence Gateway configuration.

2. In the IM & Presence server, select **System > Service Parameter**. Specify the SRV cluster name in the Cisco SIP Proxy parameter configuration page as shown here.

Service Parameter Configuration

Save Set to Default

Status: Ready

Select Server and Service

Server* 10.106.89.222--CUCM IM and Presence (Active)

Service* Cisco SIP Proxy (Active)

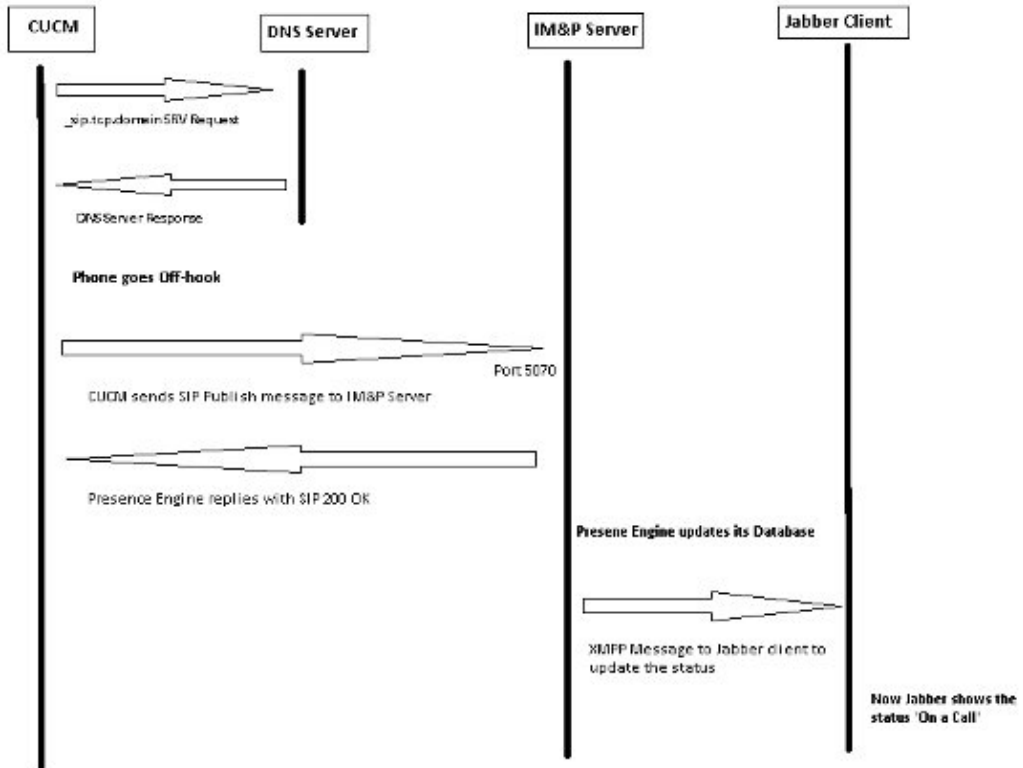
All parameters apply only to the current server except parameters that are in the Clusterwide group(s).

Cisco SIP Proxy (Active) Parameters on server 10.106.89.222--CUCM IM and Presence (Active)

Parameter Name	Parameter Value
General Proxy Parameters (Clusterwide)	
Virtual IP Address (dotted-IPv4 format or IPv6)	
SRV Cluster Name	cup.ocsie.com

Signal Path

This section provides information in regards to signalling between the different components involved in this configuration.



Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.