Cisco Unified Contact Center Express IPv6 Configuration

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Introduction

The purpose of this document is to describe the configuration of Cisco Unified Contact Center Express (Unified CCX), Cisco Unified Communications Manager (Unified Communications Manager), Cisco Unified Communications Manager IM and Presence Service (IM and Presence Service), Phones, Gateway, and Cisco Unified Border Element (CUBE) in a dual stack environment.

To test the various call flow combinations, change the common device configuration to V4 & V6, V6 only, and V4 only for phones. The trunk to Unified Communications Manager and IM and Presence Service is set as V4 & V6 for all combinations.

Design

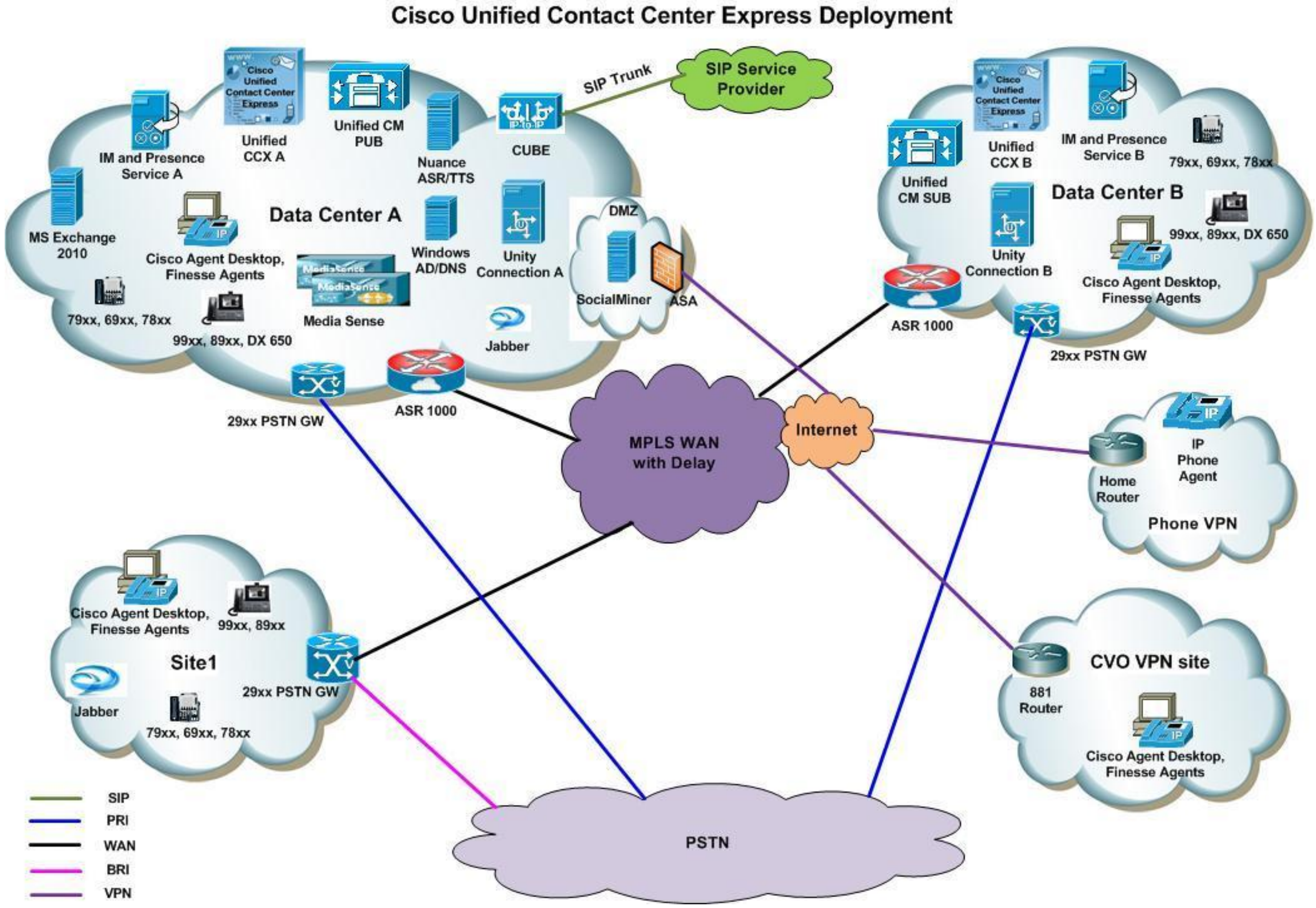
For information about design considerations and guidelines to deploy Cisco Unified Contact Center Express, see:

- Cisco Unified Contact Center Express Design Guide, Release 10.5(1), IPv6 Support
- Cisco Unified Contact Center Express Design Guide, Release 10.5(1), Deployment Models chapter

Topologies

This section provides information about the Cisco Unified Contact Center Express deployment. In the test bed, various components were tested. The deployment adheres to principles and designs documented in the Cisco Unified Contact Center Express Design Guide, Release 10.5(1).

Component Deployment



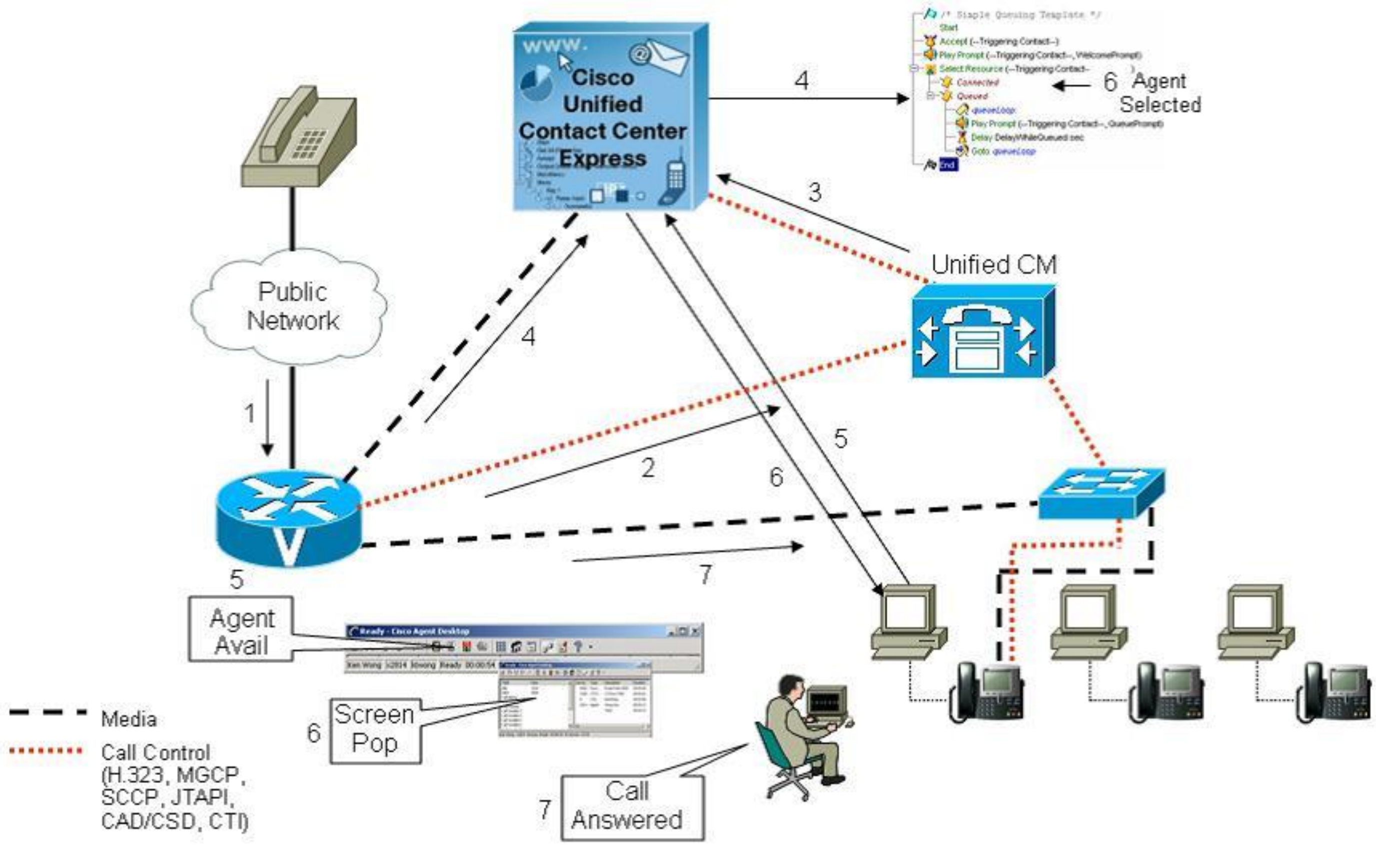
Software Versions Used

The Unified CCX IPv6 deployment uses the following software versions for testing:

- Unified Communications Manager: 10.5.1.10000-7
- Unified CCX: 10.5.1.10000-20
- IM and Presence Service: 10.5.1.10000-9
- Cisco IOS: 15.3(3)M2.9,15.3(3)M3

Call Flow Diagram

Customer Call > PRI Gateway > Voice Gateway or Unified Border Element > Unified Communications Manager > Unified CCX > Cisco Finesse Agent or Phone



Configuration

This section provides the high-level tasks and related information for configuring a Unified CCX deployment for IPv6:

The following table provides this information:

- **Configure IOS**
- **Configure Unified CCX**
- **Configure Unified Communications Manager**

Configure IOS

Step 1 Enable IPv6 on the gateway.

```
ip cef
ipv6 unicast-routing
ipv6 multicast rpf use-bgp
ipv6 cef
interface GigabitEthernet0/0
description "connected to PBL-DC1-c6506-gig3/14"
ip address 10.31.11.67 255.255.255.192
duplex auto
speed auto
ipv6 address 2001:10:31:11::67/122
ipv6 enable
ipv6 eigrp 23
```

```
no keepalive
!
ipv6 router eigrp 23
```

Step 2 Enable dual stack on the gateway.

```
voice service voip
sip
call service stop
sip-ua
protocol mode dual-stack preference ipv6
voice service voip
sip
no call service stop
```

Step 3 Add Unified CM IPv6 and ANAT configuration in dial peer configuration.

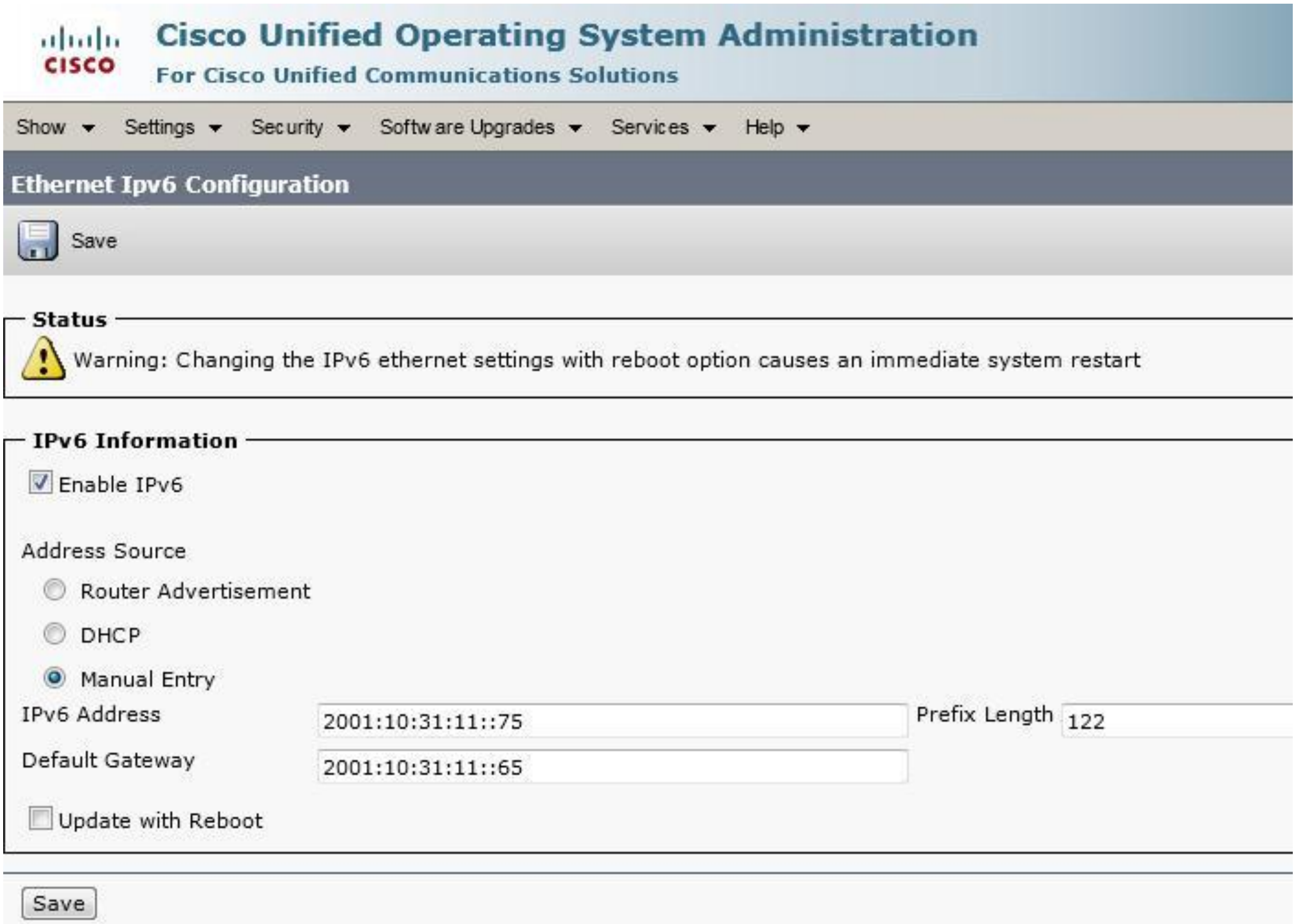
```
dial-peer voice 32 voip
description automation connection of sip-trunk-to-uccx
translation-profile outgoing change-to-7-digit
preference 1
destination-pattern 0191660....
session protocol sipv2
session target ipv6:[2001:10:31:11::75]:5068 session transport udp/tcp
voice-class codec 4 [i.e. codec preference g711ulaw]
voice-class sip anat
voice-class sip bind control source-interface GigabitEthernet0/0
voice-class sip bind media source-interface GigabitEthernet0/0
dtmf-relay rtp-nte h245-signal h245-alphanumeric
dtmf-interworking rtp-nte
no supplementary-service sip refer
!
```

Configure Unified CCX

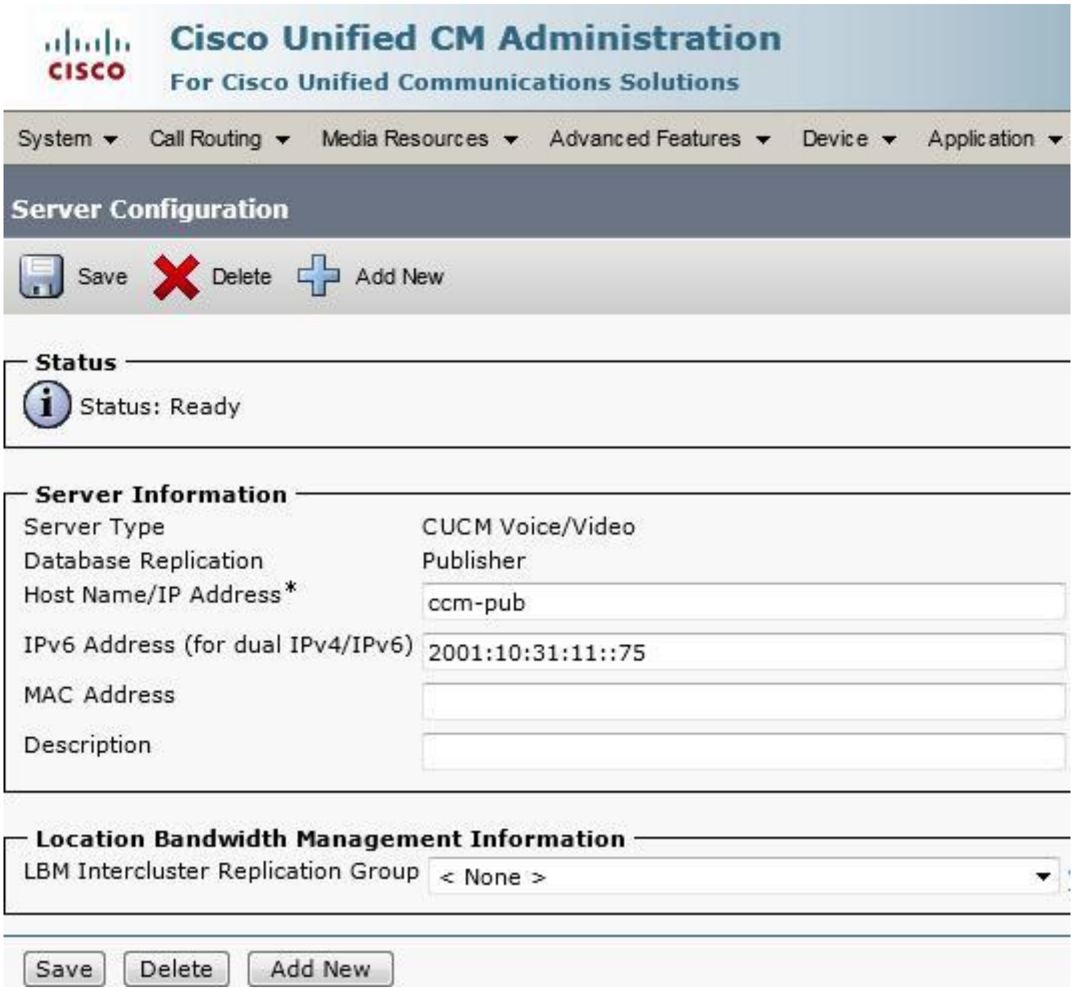
For information on how to configure IPv6 for Unified CCX, see Cisco Unified Communications Operating System Administration Guide for Cisco Unified CCX and Cisco Unified IP IVR, Release 10.5(1).

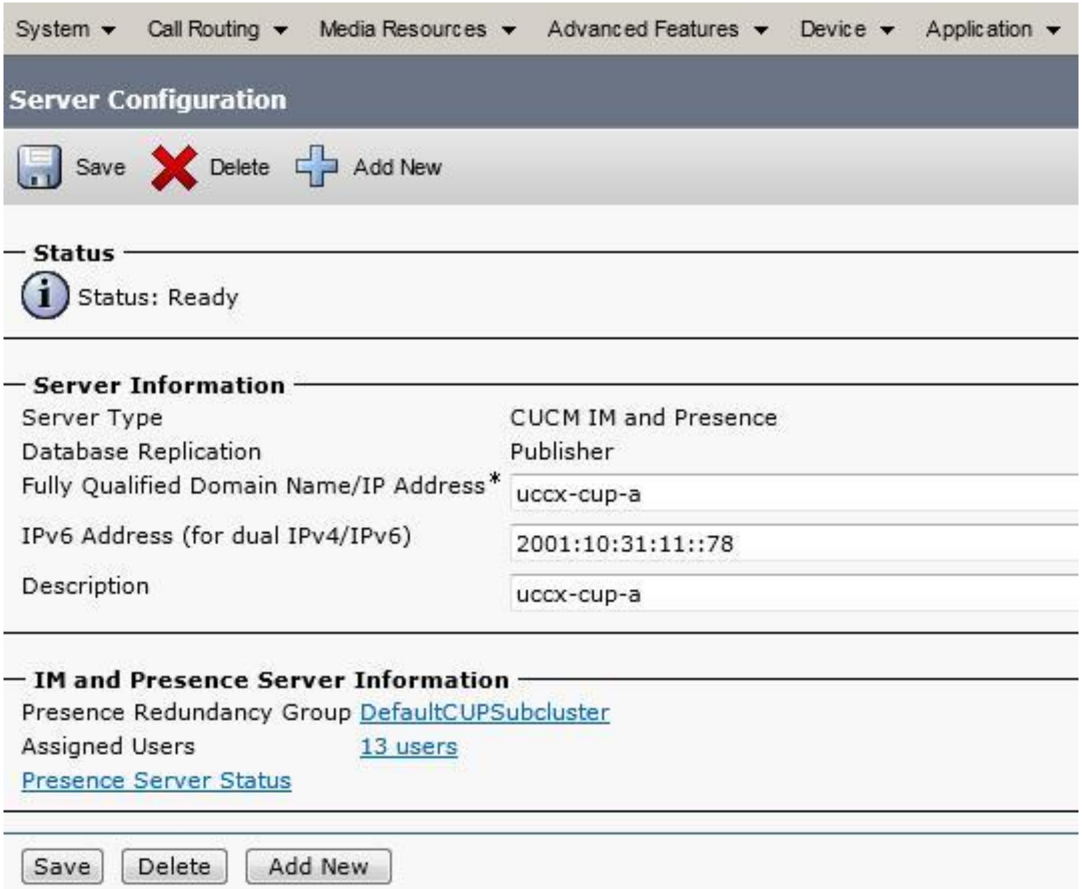
Configure Unified Communications Manager

Step 1 To enable IPv6 from Cisco Unified Operating System Administration, choose **Settings > IP > Ethernet IPv6**. Check the **Enable IPv6** check box and enter IPv6 information. Click **Save**.



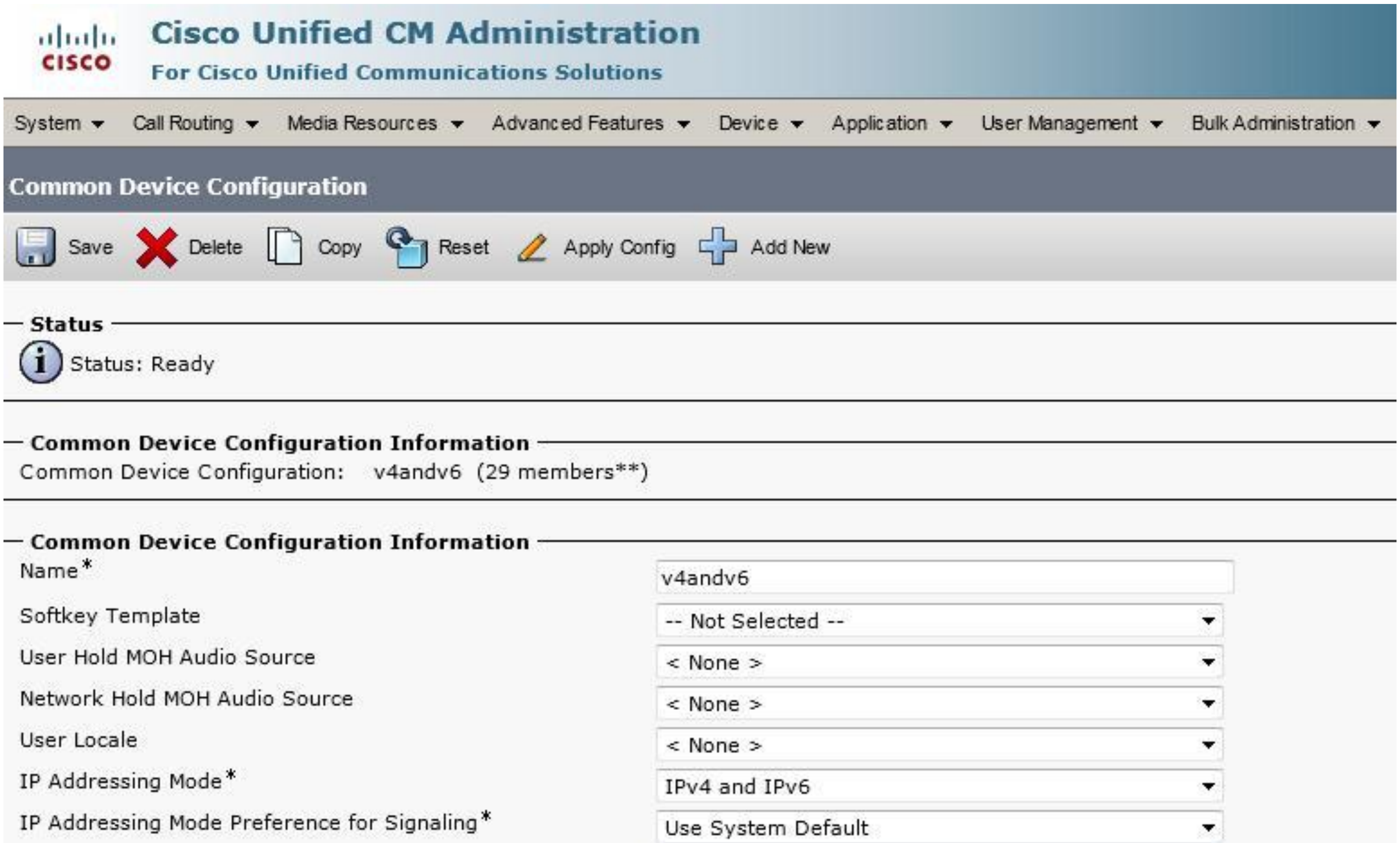
Step 2 To add IPv6 to all servers in Unified Communications Manager cluster, from Cisco Unified CM Administrator, choose **System > Server**. Add IPv6 address to all Unified Communications Manager and IM and Presence Service nodes as shown in images.


Cisco Unified CM Administration
For Cisco Unified Communications Solutions
System
Call Routing
Media Resources
Advanced Features
Device
Application
Server Configuration
Save
Delete
Add New
Status
Status: Ready
Server Information
Server Type
CUCM Voice/Video
Database Replication
Publisher
Host Name/IP Address*
ccm-pub
IPv6 Address (for dual IPv4/IPv6)
2001:10:31:11::75
MAC Address
Description
Location Bandwidth Management Information
LBM Intercluster Replication Group
< None >
Save
Delete
Add New

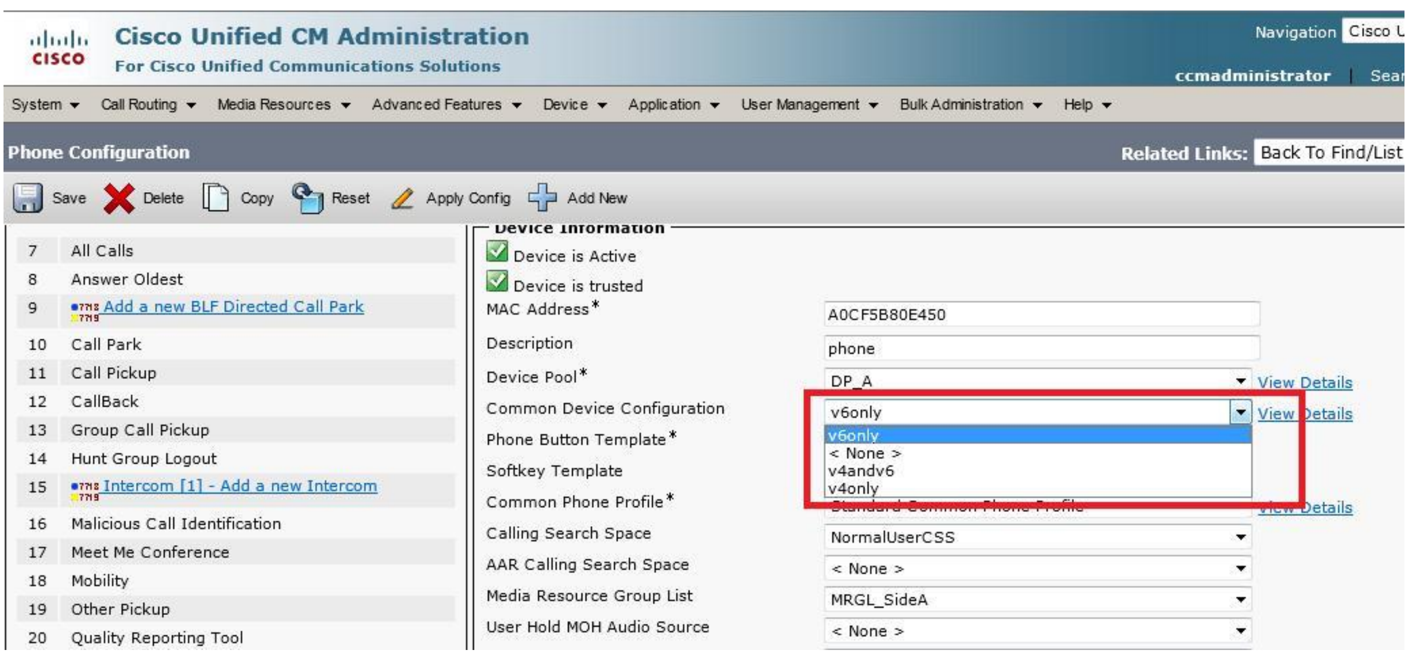


Step 3 To set the media and signaling preferences, choose **System > Enterprise Parameters**. Complete **IPv6** information as shown in image.

Step 4 To create common device configuration, choose **Device > Device Settings > Common Device Configuration**. Complete **Common Device Configuration Information** as shown in image.

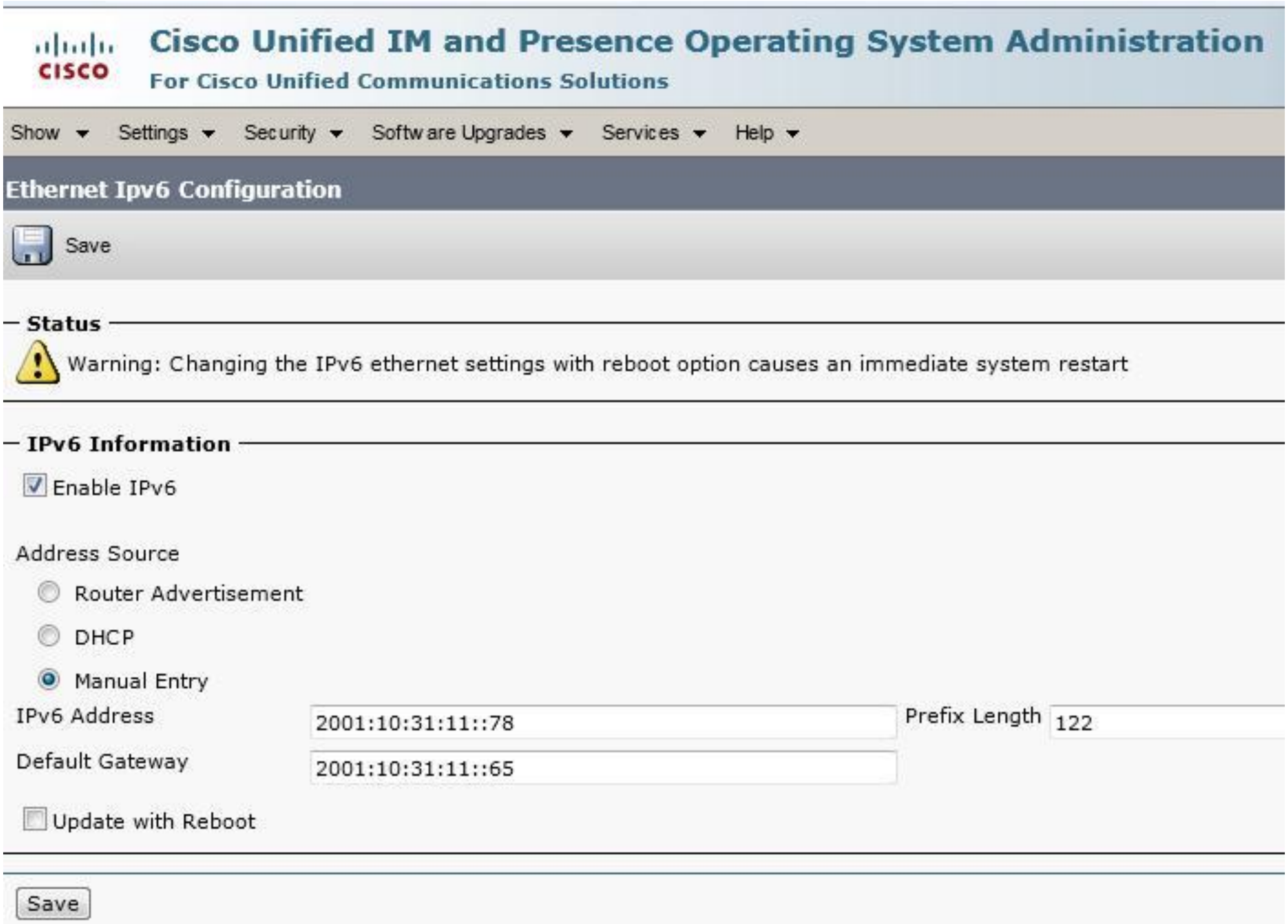


Step 5 Associate **Common Device Configuration** to phones, CTI route point, trunk, CTI ports, and so on. Complete **Device Information** as shown in image.

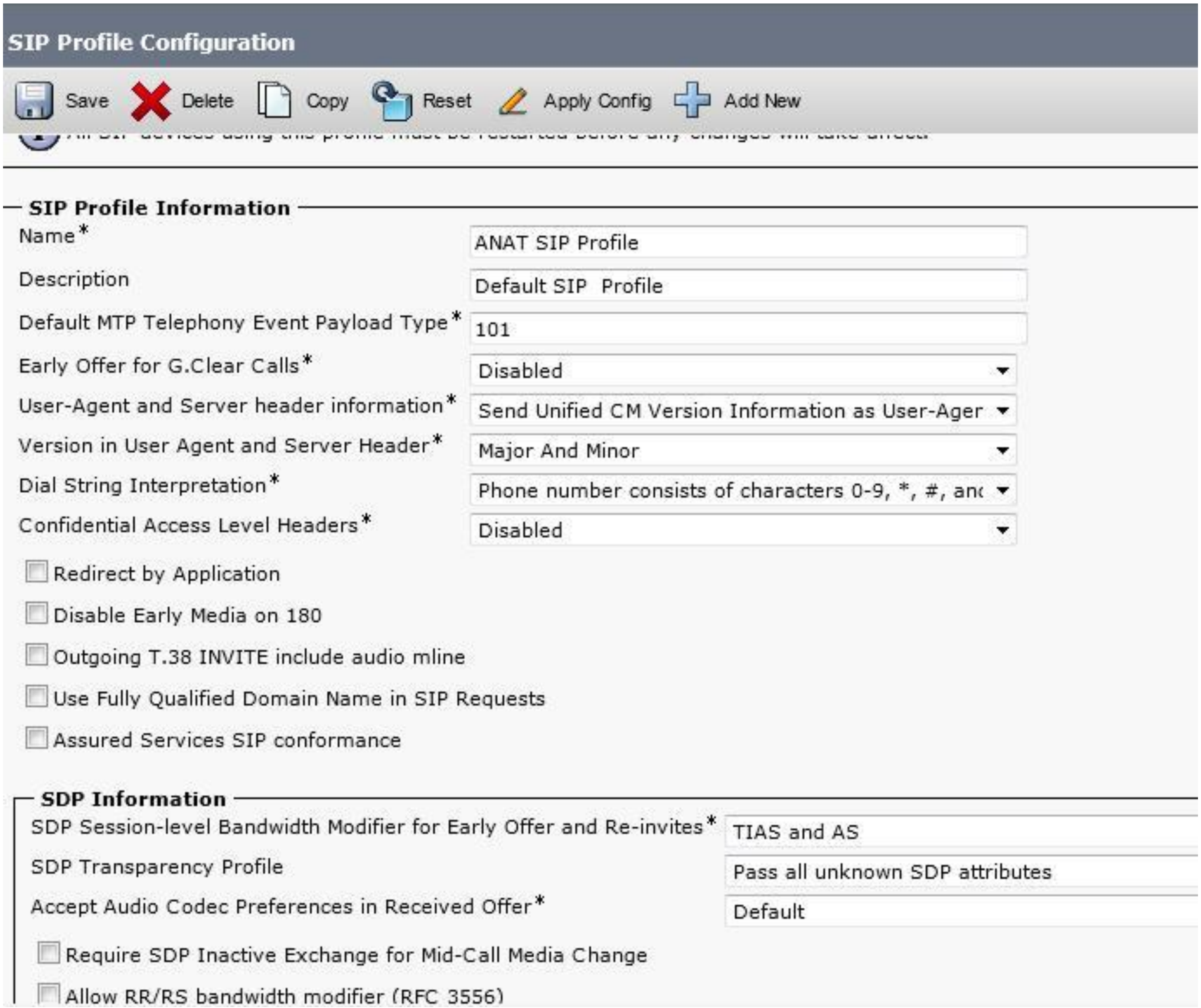


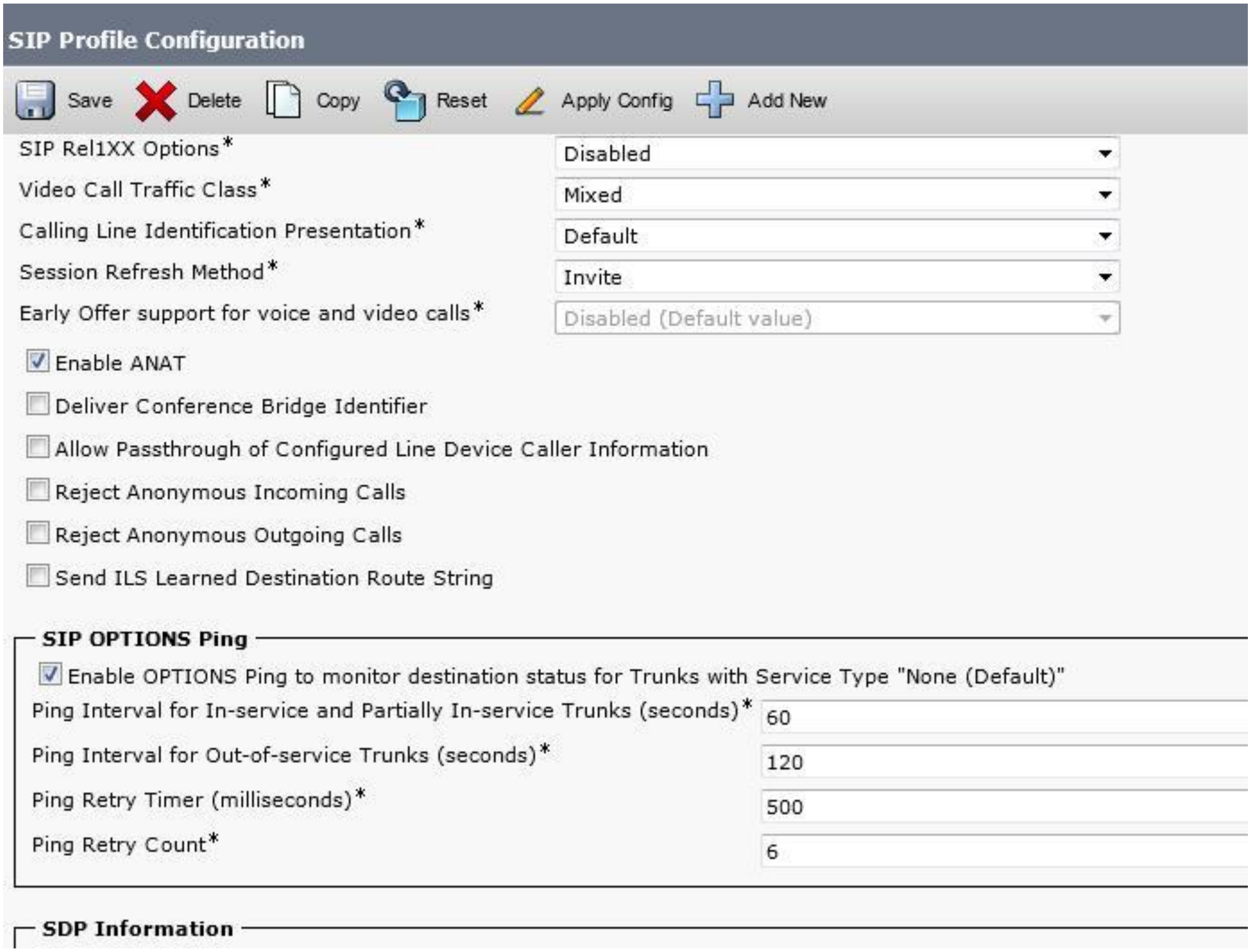
Step 6 From the Cisco Unified IM and Presence Operating System Administration page, check the **Enable IPv6** check box. Then click **Manual Entry** and enter the **IPv6 Address** for IM and Presence Service as shown in image.

Note: If DHCP is configured, you can use it as the Address Source.

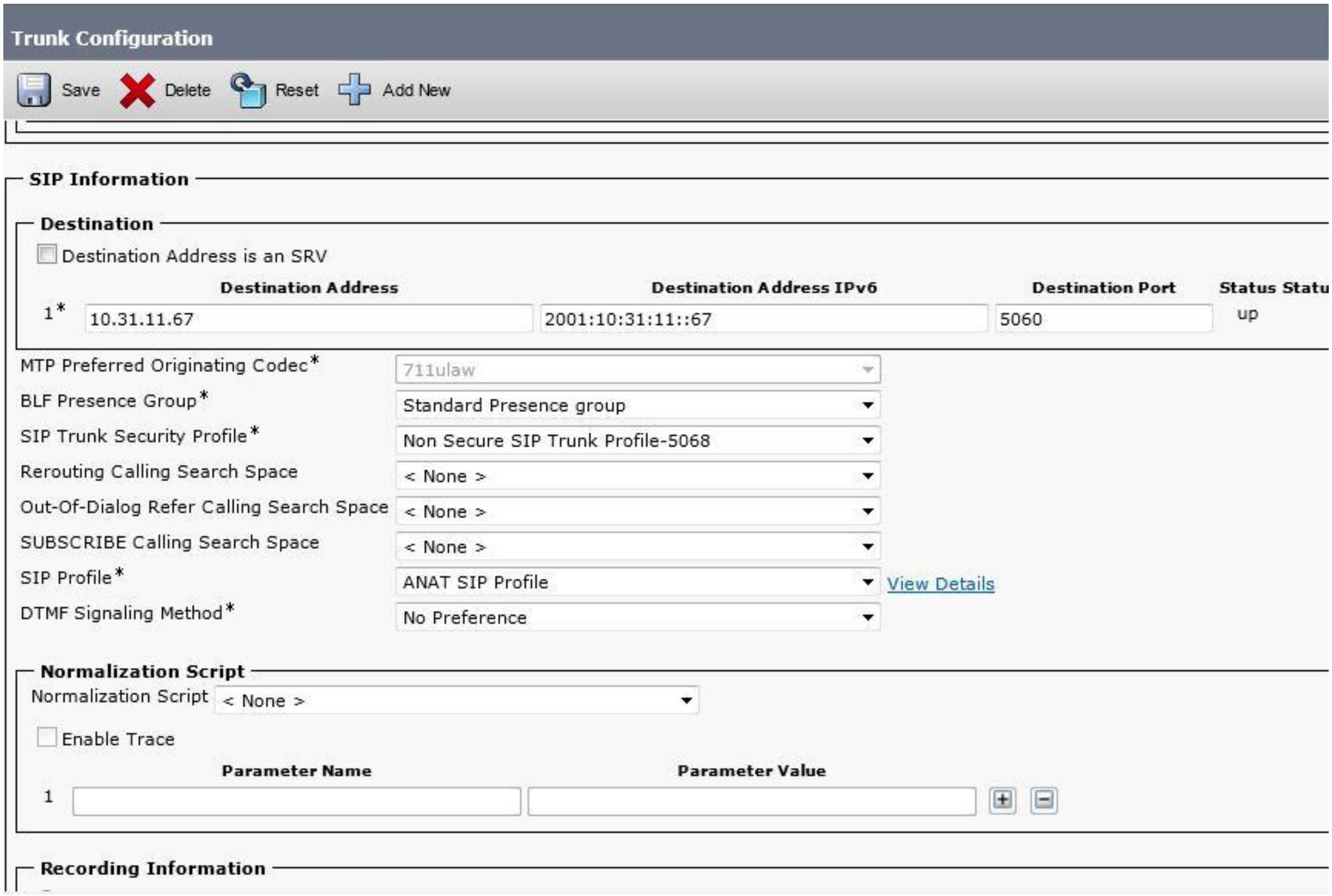


Step 7 To create and enable ANAT SIP profile for Unified Communications Manager, choose **Device > Device Settings > SIP Profile**. Complete **SIP Profile Information** as shown in image.


SIP Profile Configuration
Save
Delete
Copy
Reset
Apply Config
Add New
SIP Profile Information
Name*
ANAT SIP Profile
Description
Default SIP Profile
Default MTP Telephony Event Payload Type*
101
Early Offer for G.Clear Calls*
Disabled
User-Agent and Server header information*
Send Unified CM Version Information as User-Ager
Version in User Agent and Server Header*
Major And Minor
Dial String Interpretation*
Phone number consists of characters 0-9, *, #, anc
Confidential Access Level Headers*
Disabled
Redirect by Application
Disable Early Media on 180
Outgoing T.38 INVITE include audio mline
Use Fully Qualified Domain Name in SIP Requests
Assured Services SIP conformance
SDP Information
SDP Session-level Bandwidth Modifier for Early Offer and Re-invites*
TIAS and AS
SDP Transparency Profile
Pass all unknown SDP attributes
Accept Audio Codec Preferences in Received Offer*
Default
Require SDP Inactive Exchange for Mid-Call Media Change
Allow RR/RS bandwidth modifier (RFC 3556)



Step 8 To associate the ANAT SIP profile to the trunk, from Trunk Configuration page, add the V4 and V6 IPs of the gateway or Unified Border Element to the trunk in Unified Communications Manager as shown in image. Also, choose the **ANAT SIP Profile** from the **SIP Profile** drop-down list.



Related Documentation

- Cisco Unified Contact Center Express Design Guide, Release 10.5(1)
- Cisco Unified Communications Operating System Administration Guide for Cisco Unified CCX and Cisco Unified IP IVR, Release 10.5(1)

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

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