



Amazon Chime SDK Voice Connector

Fax Configuration Guide:

XMedius Fax (XM Fax) and Cisco Unified Border Element (CUBE)

November 2022

Document History

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Table of Contents

1	Audience	5
1.1	Amazon Chime SDK Voice Connector.....	5
2	SIP Trunking Network Components.....	6
2.1	Hardware Components	7
2.2	Software Requirements	7
3	Features	7
3.1	Features Supported.....	7
3.2	Features Not Supported.....	7
3.3	Features Not Tested	7
3.4	Caveats and Limitations.....	8
4	Configuration	8
4.1	Configuration Checklist	8
4.2	XMedius (XM Fax) Fax Server Configuration	9
4.2.1	XM Fax Login and Version.....	9
4.2.2	Profile Configuration.....	10
4.2.1	Internal User Configuration	14
4.2.2	Driver Configuration.....	17
4.2.3	Incoming Routing Table	22
4.3	Cisco UBE Configuration.....	24
4.3.1	Global Cisco UBE settings.....	24
4.3.2	Codecs	25
4.3.3	Dial Peer	25
4.3.4	Cisco UBE Running Configuration.....	27

Table of Figures

Figure 1 Network Topology	6
Figure 2: XM Fax Login.....	9
Figure 3: XM Fax Version	10
Figure 4 Profile	11
Figure 5 Profile Contd.,	12
Figure 6 Profile Contd.,	13
Figure 7 Profile Contd.,	14
Figure 8 Internal User,	15
Figure 9 Internal User Contd.,	16
Figure 10 Driver Configuration-SIP	17
Figure 11 Driver Configuration-Peer List.....	17
Figure 12 Peer List Configuration	19
Figure 13 Peer List Configuration Contd.,	20
Figure 14 Peer List Configuration Contd.,	21
Figure 15 Driver Configuration-Dial Plan	22
Figure 16 Incoming Routing Table.....	23

1 Audience

This document is intended for technical staff and Value Added Resellers (VAR) with installation and operational responsibilities. This configuration guide provides steps for configuring Fax (G711 Passthrough & T.38) using **XMedius Fax (XM Fax)** and **Cisco Unified Border Element (CUBE)** to connect to **Amazon Chime SDK Voice Connector** for inbound and/or outbound fax capabilities.

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1.1 Amazon Chime SDK Voice Connector

Amazon Chime SDK Voice Connector is a pay-as-you-go service that enables companies to make or receive secure phone calls over the internet or AWS Direct Connect using their existing telephone system or session border controller (SBC). The service has no upfront fees, elastically scales based on demand, supports calling both landline and mobile phone numbers in over 100 countries, and gives customers the option to enable inbound calling, outbound calling, or both.

Amazon Chime SDK Voice Connector uses the industry-standard Session Initiation Protocol (SIP). Amazon Chime SDK Voice Connector does not require dedicated data circuits. A company can use their existing Internet connection or AWS Direct Connect public virtual interface for SIP connectivity to AWS. Voice connectors can be configured in minutes using the AWS Management Console or Amazon Chime API. Amazon Chime SDK Voice Connector offers cost-effective rates for inbound and outbound calls. Calls into Amazon Chime meetings, as well as calls to other Amazon Chime SDK Voice Connector customers are at no additional cost. With Amazon Chime SDK Voice Connector, companies can reduce their voice calling costs without having to replace their on-premises phone system.

2 SIP Trunking Network Components

The network for Fax reference configuration is illustrated below and is representative of XM Fax with CUBE configuration.

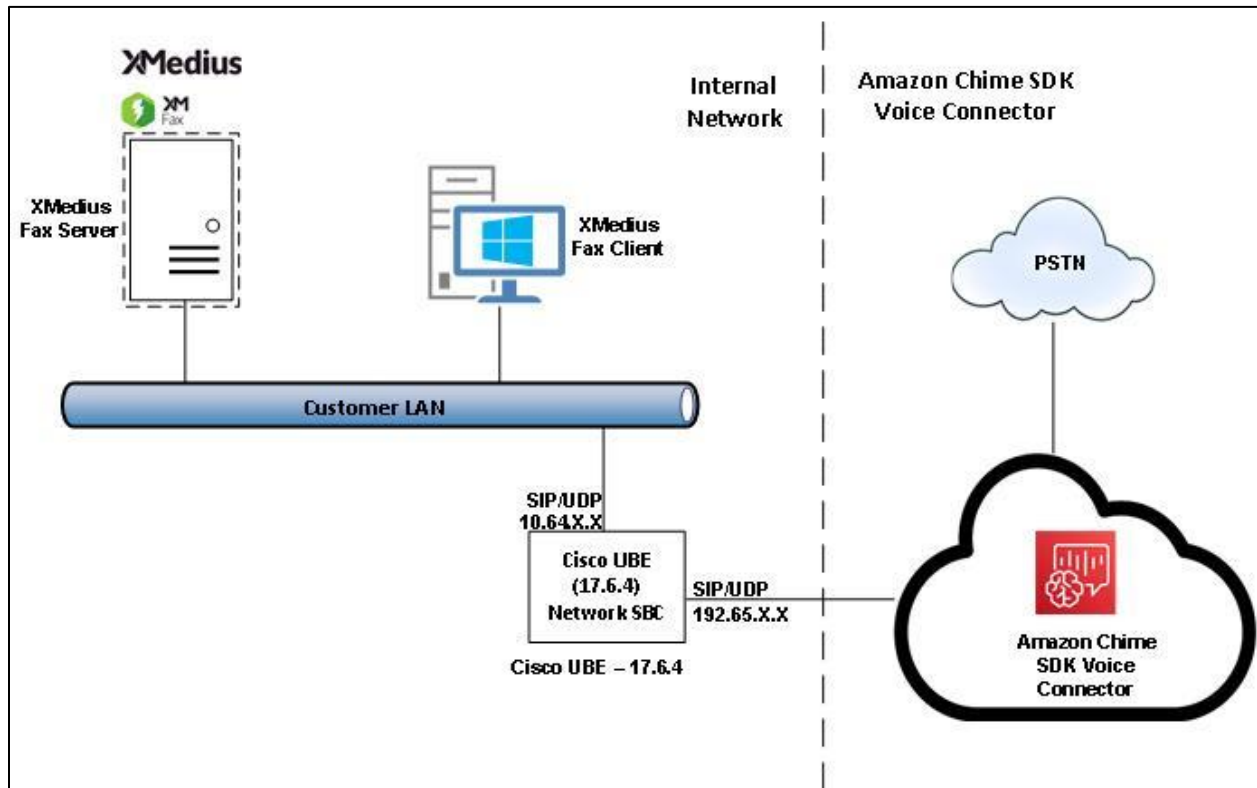


Figure 1 Network Topology

2.1 Hardware Components

- UCS-C240 VMWare server running ESXi 5.5 or later used for the following virtual machines
 - XMedius Fax Server (XM Fax)
- Cisco UBE (CUBE) on Cisco ISR 4331 router

2.2 Software Requirements

- XMedius Fax – 22.2
- Cisco UBE: 17.6.4 running on IOS-XE 16.12.2r(isr4300-universalk9.17.06.04.SPA.bin)

3 Features

3.1 Features Supported

- T.38 Fax – Inbound and Outbound
- G711 Passthrough - Inbound and Outbound

3.2 Features Not Supported

- None

3.3 Features Not Tested

- None

3.4 Caveats and Limitations

- In T.38 fax call with SG3 speeds, T.38 version was changed from 3 to 0 when 200 OK response was received from Amazon Chime SDK Voice Connector so the fax transmission was on G3 Speeds.

4 Configuration

The specific values listed in this guide are used in the lab configuration described in this document and are for illustrative purposes only. You must obtain and use the appropriate values for your deployment. Encryption is always recommended if supported.

4.1 Configuration Checklist

In this section we present an overview of the steps that are required to configure **XM Fax** and **CUBE** for sending Fax using **Amazon Chime SDK Voice Connector**.

Table 1 – PBX Configuration Steps

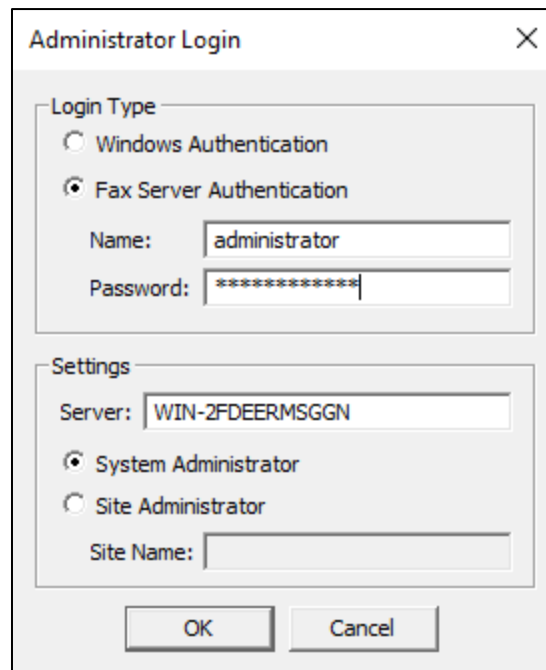
Steps	Description	Reference
Step 1	XMedius Fax Configuration	Section 4.2
Step 2	CUBE Configuration	Section 4.3

4.2 XMedius (XM Fax) Fax Server Configuration

This section with screen shots taken from XMedius Fax Server used for the interoperability testing gives a general overview of the XMedius Fax Server configuration.

4.2.1 XM Fax Login and Version

Open the application XM Fax and log in using an appropriate **user ID** and **password**.



The screenshot shows a dialog box titled "Administrator Login" with a close button (X) in the top right corner. The dialog is divided into two main sections: "Login Type" and "Settings".

Login Type:

- Windows Authentication
- Fax Server Authentication

Below the radio buttons are two text input fields:

- Name: administrator
- Password: *****

Settings:

- Server: WIN-2FDEERMSGGN
- System Administrator
- Site Administrator
- Site Name: (empty field)

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Figure 2: XM Fax Login

To verify the system version being tested browse to **Help** and select **About XM Fax** to find the version of XM Fax

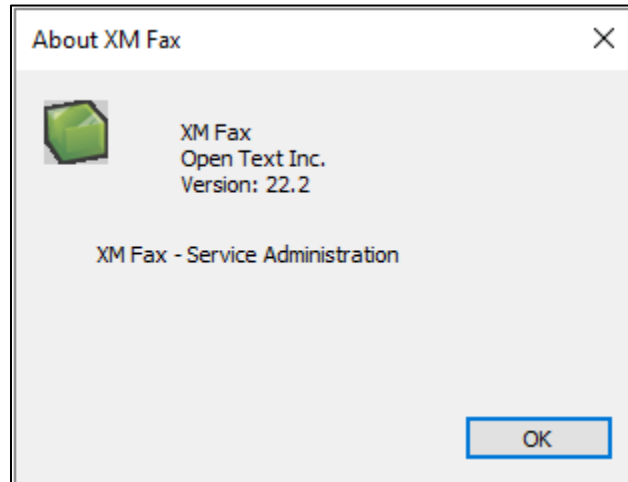


Figure 3: XM Fax Version

4.2.2 Profile Configuration

1. Navigate to **Sites > My Organization > Configuration > Profile**.
2. Right Click on **Profile** and Click on **Add**
3. The following are the values that are configured in the Profile
4. In the **Profile** tab enter a **name** for the profile

Profile Properties ✕

Profile | Cover Sheets | Phone Books | Billing Codes | Fax Options | Security | Notification

Profile Name

Profile Name:

Organization Information

Override Users' Organization Information

Organization:

Address:

City:

State/Province:

Country:

Zip:

Phone Number Information

Override Users' Phone Numbers

Phone:

Fax:

Time Zone

Override Users' Time Zone

Time Zone:

Figure 4 Profile

5. Choose the **Cover sheet** for the profile

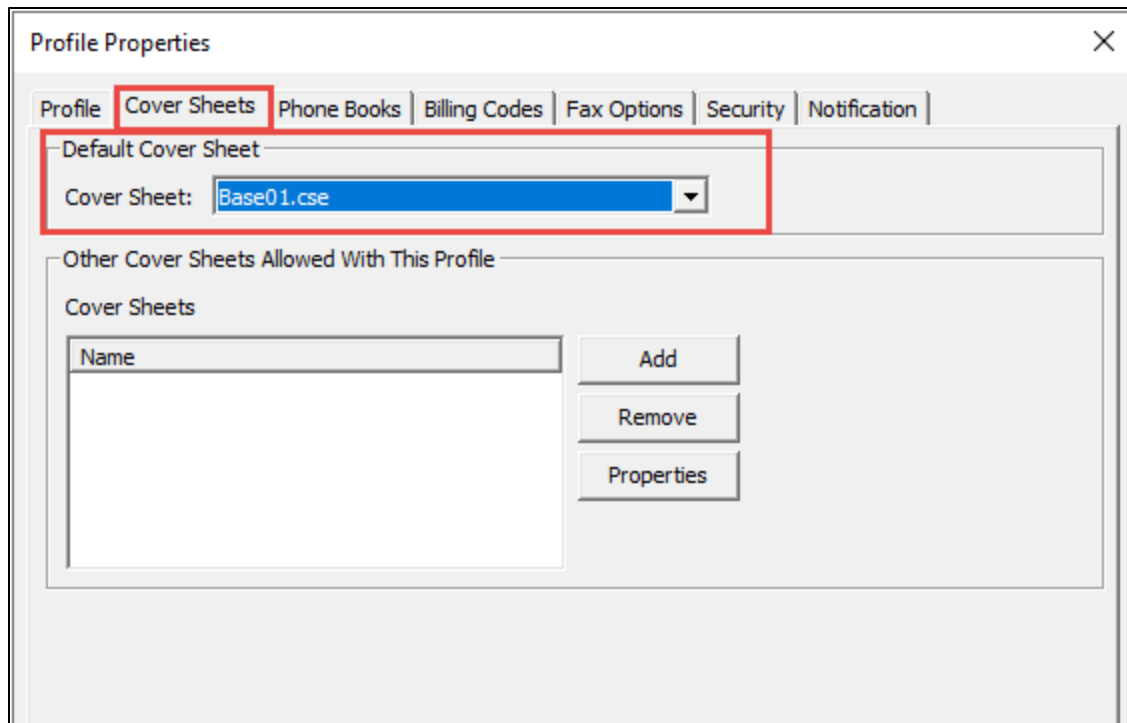


Figure 5 Profile Contd.,

6. Choose the **Fax Options** for the profile and values can be adjusted as per the requirement. In this example in section **Retries – Default** is set to **1**, **Maximum** is set to **1** and **Delay between Retries (Min)** is set to **5**

Profile Properties

Profile | Cover Sheets | Phone Books | Billing Codes | **Fax Options** | Security | Notification

Priority

Default: Normal

Maximum: Normal

Retries

Default: 1

Maximum: 1

Delay Between Retries (min): 5

Resolution

Default: High

Maximum: High

Other Options

Submitted Fax Timeout (min): 120

CSID:

Fax Header: @@RESUMENL(*** RESUMING INTERRUPTED FAX

Notify Success

Notify Failed

Broadcast Notification

Notify Inbound Success

Notify Inbound Failed

Include Message Body When Sending Fax

OK Cancel

Figure 6 Profile Contd.,

7. In the **Security** tab, in **Authentication Options** section **Send Fax through XML Gateway requires Authentication** and **XML file requires Authentication** are unchecked and other fields are set to default.

Profile Properties

Profile | Cover Sheets | Phone Books | Billing Codes | Fax Options | **Security** | Notification

User Options

- User is allowed to fax
- User may attach a Cover Sheet
- User must use a Cover Sheet
- User can download faxes from the Web Client
- User has access to the Fax Event Log

Authentication Options

- SendFAX through XML Gateway requires authentication
- XML files require authentication
- SMTP messages require authentication

Override Policy - Organization Information

- User can override the information
- User cannot override the information (reject the sending)
- User cannot override the information (allow the sending with default settings)

Override Policy - Fax Options

- User can override the information
- User cannot override the information (reject the sending)
- User cannot override the information (allow the sending with default settings)

Number Restrictions

Restriction Group:

OK Cancel

Figure 7 Profile Contd.,

4.2.1 Internal User Configuration

1. Navigate to **Sites > My Organization > Configuration > Internal Users**
2. Right Click on **Internal Users** and Click on **Add**
3. The following are the values that are configured in the **Internal User** in **User** Tab, Assign the **SMTP Address** and **Profile** created to the user

The image shows a 'User Properties' dialog box with two tabs: 'User' and 'Personal Information'. The 'Personal Information' tab is active. A red rectangular box highlights the 'User' section, which contains the following fields and options:

- User** (Section Header)
- Enabled
- SMTP Address:
- Profile Name:
- NT Account:

Below the 'User' section are two other sections:

- Password** (Section Header)
 - User must change password at next logon
 - Password never expires
- Time Zone** (Section Header)
 - Time Zone:

Figure 8 Internal User,

4. The following are the values that are configured in the **Internal User** in **Personal Information** Tab, Enter the **First Name, Last Name, Organization, Phone** and **Fax Number**

User Properties ✕

User **Personal Information**

Personal Information

Salutation:

First Name:

Last Name:

Title:

Cellular:

Pager:

Billing Information

Billing Code:

Sub Billing Code:

Organization Information

Organization:

Address:

City:

State/Province:

Country:

Zip:

Phone Number Information

Phone:

Fax:

Figure 9 Internal User Contd.,

4.2.2 Driver Configuration

1. Navigate to **System Configuration > Hosts > Fax Server Name > Driver > Right Click and Choose Properties**
2. In the **SIP** tab set the Port numbers and leave the values to default as shown below,

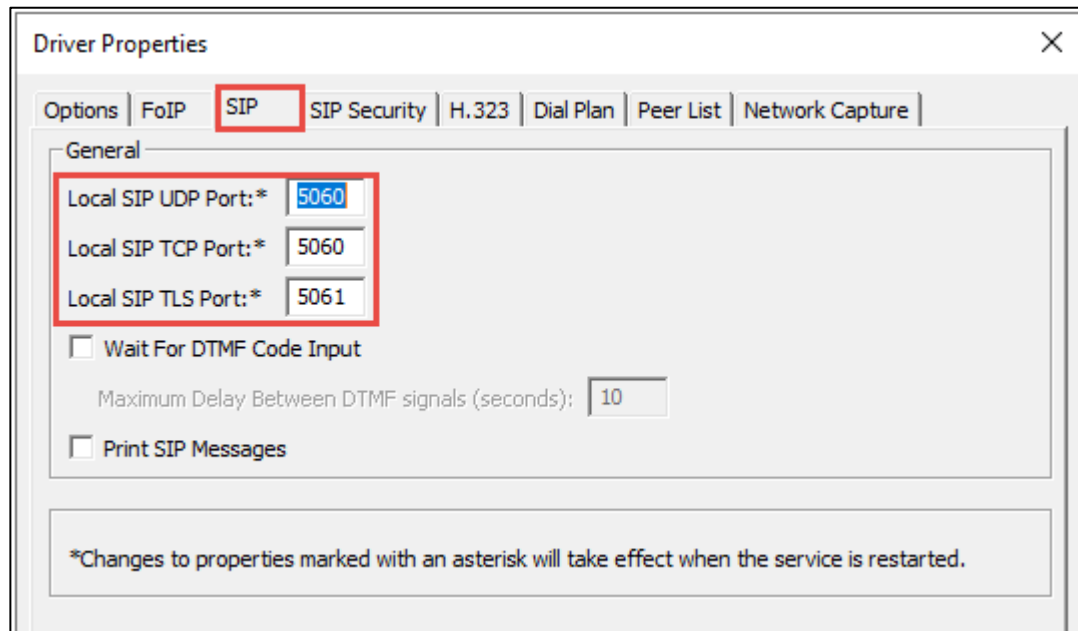


Figure 10 Driver Configuration-SIP

3. In the **Peer List** tab click on **Add SIP Peer**,

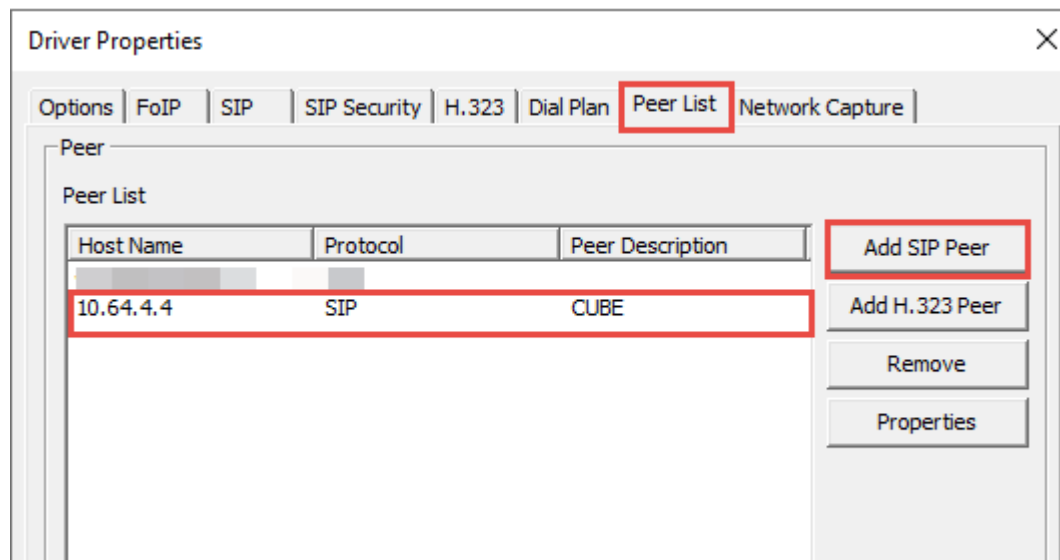


Figure 11 Driver Configuration-Peer List

In the **General** tab set the values for **Host Name**- CUBE LAN IP address,

Transport- UDP as shown below,

Note:

Media Type is set to **G711 Passthrough** for G711 Passthrough fax call scenarios.

Media Type is set to **T.38 Fax Relay** for T.38 fax call scenarios.

V.34 Enabled is checked for SG3 Speeds

V.17 Enabled is checked for G3 Speeds

Peer Properties

General | T.38 | Codecs | Inbound Modification Table

Options

Host Name: 10.64.4.4

Peer Description: CUBE

Transport: UDP

Port: 5060

Media Type: T.38 with Fallback to G.711

G.711 fallback delay after fax detection (milliseconds): T.38 Fax Relay

Delay Before Call Completion (seconds): G.711 Passthrough

Voice Call Timeout (seconds): 40

Delay Before Accepting Call (seconds): 0

"user" parameter in SIP URI: phone

VIA and CONTACT Headers Host Name Override:

V.34 Enabled

V.17 Enabled

V.29 Enabled

Use Proxy

Host Name:

Disable this peer for incoming calls

SIP From Header Details

Display Name:

User: \$SenderFax\$

Host: \$LocalHostIP\$

SIP Session Timer

Use Session Timer

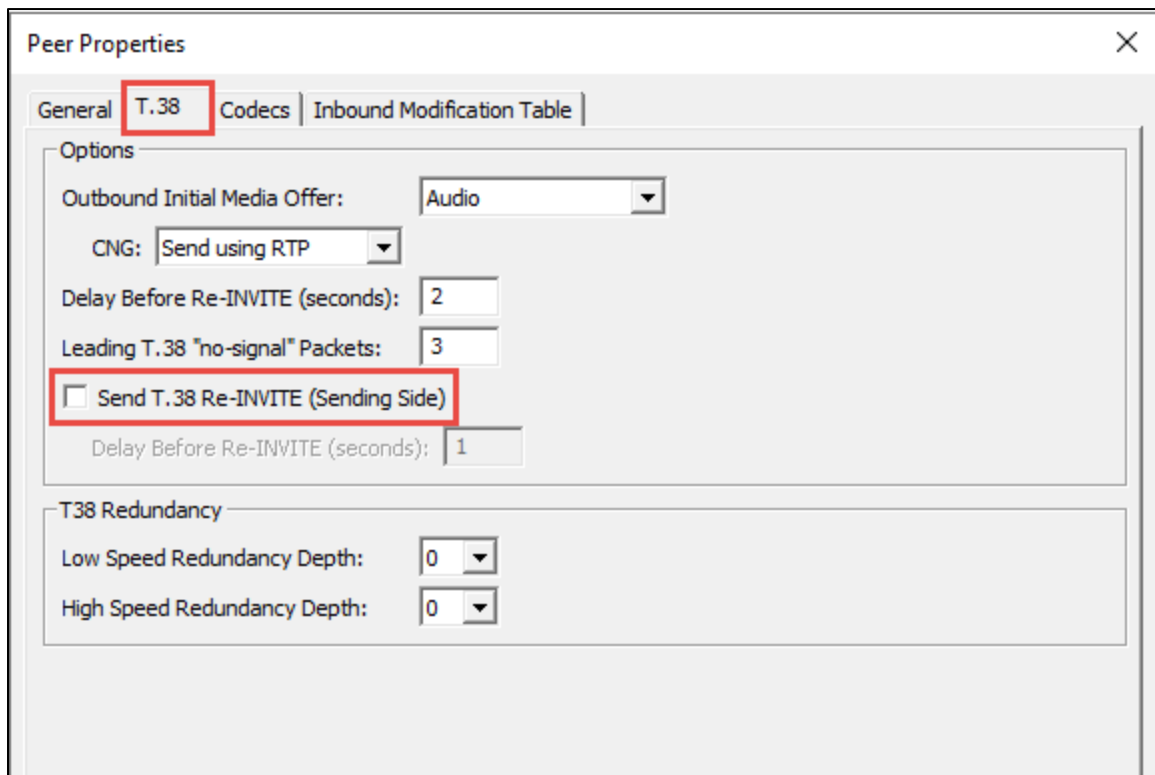
Session Interval (seconds): 1800

Minimum Timer (seconds): 90

OK Cancel

Figure 12 Peer List Configuration

In the **T.38** tab, check the option **Send T.38 Re-Invite (Sending Side)** if XM Fax is to send T.38 Re-Invite and leave the rest to default values



The image shows a screenshot of the 'Peer Properties' dialog box, specifically the 'T.38' tab. The dialog has a title bar with a close button (X) in the top right corner. Below the title bar are four tabs: 'General', 'T.38', 'Codecs', and 'Inbound Modification Table'. The 'T.38' tab is selected and highlighted with a red box. The 'Options' section contains several settings: 'Outbound Initial Media Offer' is set to 'Audio'; 'CNG' is set to 'Send using RTP'; 'Delay Before Re-INVITE (seconds)' is set to '2'; 'Leading T.38 "no-signal" Packets' is set to '3'; and 'Send T.38 Re-INVITE (Sending Side)' is a checkbox that is currently unchecked and highlighted with a red box. Below this checkbox is another 'Delay Before Re-INVITE (seconds)' field set to '1'. The 'T38 Redundancy' section contains two dropdown menus: 'Low Speed Redundancy Depth' and 'High Speed Redundancy Depth', both set to '0'.

Figure 13 Peer List Configuration Contd.,

In the **Codecs** tab choose the desired codecs as shown below,

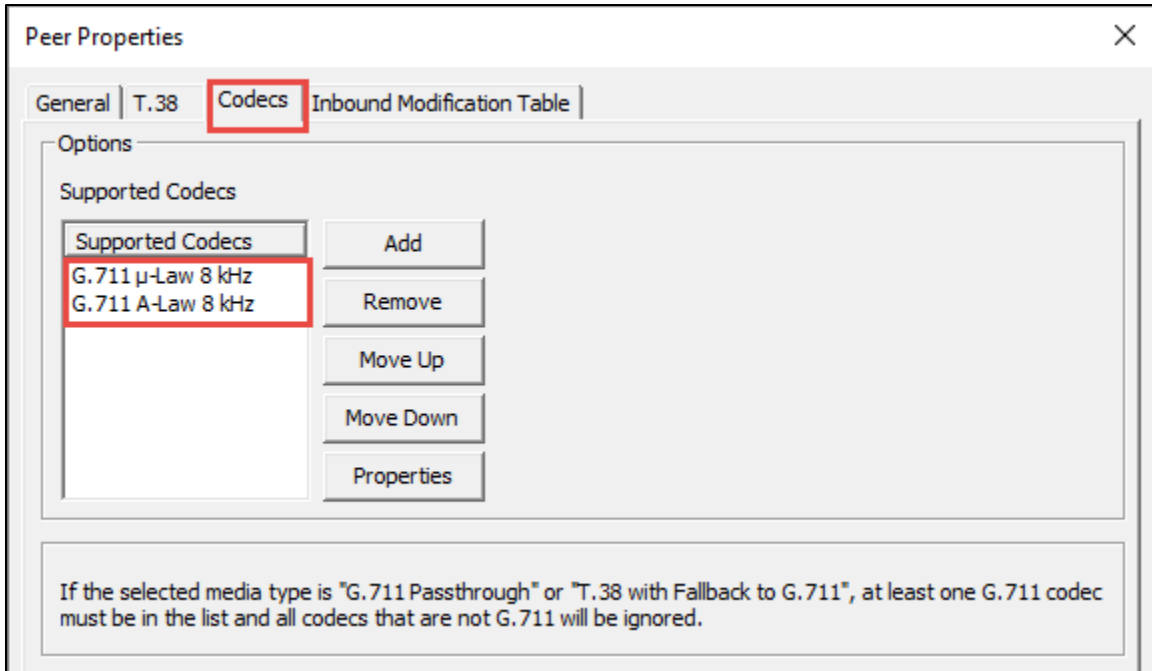


Figure 14 Peer List Configuration Contd.,

4. In the **Dial Plan** tab click on **Add** and set the values as shown below, This will be the dial plan that is used when making an outbound fax from XM Fax

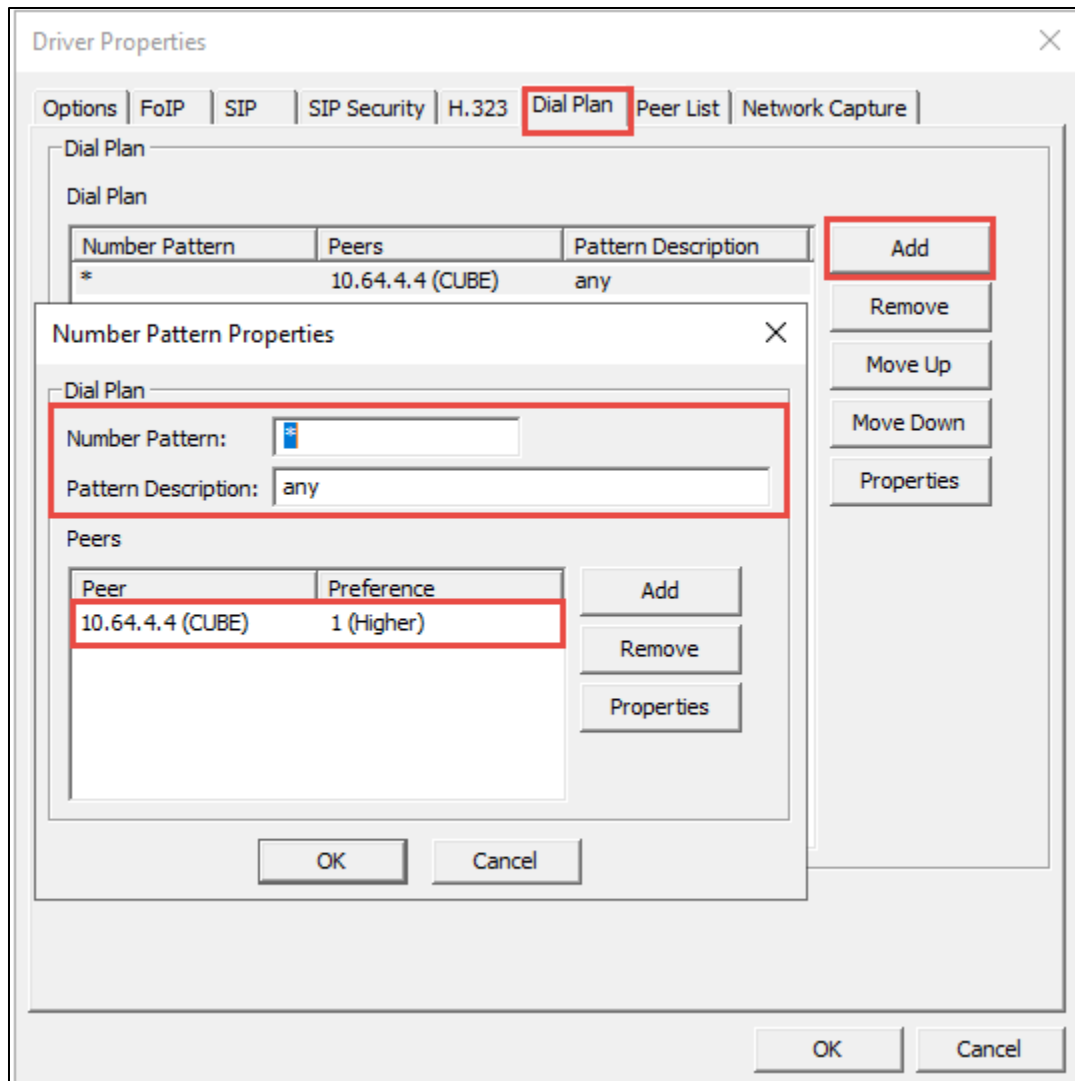


Figure 15 Driver Configuration-Dial Plan

4.2.3 Incoming Routing Table

1. Navigate to **Sites > My Organization > Configuration > Internal Routing Table**, This is used to route the Inbound Fax call to the Users
2. Right Click and choose **Add Direct Rule** and map the DID to the User to route the Incoming Fax call as shown below,

Routing Table Entry Properties

Routing

Match DNIS/DID Pattern: 919

Match ANI Pattern:

Match CSID Pattern:

Match DTMF Pattern:

Match barcode Pattern:

Use OCR* Configure...

Routing Destinations

Type: User

Filter: Search Add User

Search Results

Add to List

Destination

Type	User	Display Name	Remove
User	awsuser@t...		

If this routing entry matches, continue processing the routing table

Rule Description:

* Implies an OCR scan of the fax image for every fax processed by the system.

OK Cancel

Figure 16 Incoming Routing Table

4.3 Cisco UBE Configuration

4.3.1 Global Cisco UBE settings

```
voice service voip
  ip address trusted list
    ipv4 3.80.xx.xx 255.255.255.0
    ipv4 10.64.4.80 255.255.255.255
  address-hiding
  mode border-element
  allow-connections sip to sip
  no supplementary-service sip refer
  supplementary-service media-renegotiate
  fax protocol pass-through g711ulaw
  sip
    session refresh
    asserted-id pai
    early-offer forced
    midcall-signaling passthru
    privacy-policy passthru
    g729 annexb-all
    pass-thru headers un supp
```

Note:

Specification for G711 Pass-through Fax:

Use the below command in **voice service voip**
fax protocol pass-through g711u1aw

Specification for T.38 Fax:

Use the below command in **voice service voip**

fax protocol t38 version 0 ls-redundancy 0 hs-redundancy 0 fallback none

T.38 Fax with G3 Speed- Set the t38 version to 0

T.38 Fax with SG3 Speed- Set the t38 version to 3

4.3.2 Codecs

```
voice class codec 1
  codec preference 1 g711u1aw
```

4.3.3 Dial Peer

Inbound Dial Peer for XMedius Fax

```
dial-peer voice 100 voip
  description *** Inbound Dial-Peer- from Xmedius to CUBE ***
  session protocol sipv2
  session transport udp
  incoming uri via xmedius
  voice-class codec 1
  voice-class sip bind control source-interface GigabitEthernet0/0/1
  voice-class sip bind media source-interface GigabitEthernet0/0/1
  dtmf-relay rtp-nte
  no vad
```

Inbound Dial Peer for Amazon Chime VC

```
dial-peer voice 200 voip
description *** Inbound Dial-Peer- from Amazon to CUBE ***
translation-profile incoming Amazon-In
session protocol sipv2
session transport udp
incoming called e164-pattern-map 890
voice-class codec 1
voice-class sip bind control source-interface GigabitEthernet0/0/2
voice-class sip bind media source-interface GigabitEthernet0/0/2
dtmf-relay rtp-nte
no vad
```

Outbound Dial Peer to XMedius Fax

```
dial-peer voice 101 voip
description *** Outbound Dial-Peer to Xmedius****
destination-pattern 919.....
session protocol sipv2
session target ipv4:10.64.4.80:5060
session transport udp
voice-class codec 1
voice-class sip bind control source-interface GigabitEthernet0/0/1
voice-class sip bind media source-interface GigabitEthernet0/0/1
dtmf-relay rtp-nte
no vad
```

Outbound Dial Peer to Amazon Chime VC

```
dial-peer voice 201 voip
description *** Outbound Dial-Peer to Amazon****
translation-profile outgoing Amazon-Out
destination-pattern [0-9]T
session protocol sipv2
```

```
session target sip-server
session transport udp
voice-class codec 1
voice-class sip localhost
dns:hydpgl16qdjye6XXXXXXXXX.voiceconnector.chime.aws
voice-class sip options-keepalive
voice-class sip bind control source-interface GigabitEthernet0/0/2
voice-class sip bind media source-interface GigabitEthernet0/0/2
dtmf-relay rtp-nte
no vad
```

4.3.4 Cisco UBE Running Configuration

```
AWS#sh running-config
```

```
Building configuration...
```

```
Current configuration : 11183 bytes
```

```
!
```

```
! Last configuration change at 09:33:57 UTC Mon Nov 28 2022
```

```
! NVRAM config last updated at 09:07:44 UTC Mon Nov 28 2022
```

```
!
```

```
version 17.6
```

```
service timestamps debug datetime msec
```

```
service timestamps log datetime msec
```

```
service password-encryption
```

```
service call-home
```

```
platform qfp utilization monitor load 80
```

```
platform punt-keepalive disable-kernel-core
```

```
!
```

```
hostname AWS
```

```
!
```

```
boot-start-marker
```

```
boot system flash:isr4300-universalk9.17.06.04.SPA.bin
```

```
boot-end-marker
!
!
vrf definition Mgmt-intf
!
address-family ipv4
exit-address-family
!
address-family ipv6
exit-address-family
!
card type t1 0 1
card type t1 0 2
logging queue-limit 2147483647
logging buffered 6889472
enable secret 9
$9$KchyqdwrQaiMxE$8.8GueSrU4G24dzocakf6FafiLWRLYCXj1JWPUyA.8Q
!
no aaa new-model
!
!
!
!
!
!
!
!
!
ip name-server 8.8.8.8
ip domain name tekvisionlabs.com
!
!
!
login on-success log
!
```

```
!  
!  
!  
!  
!  
!  
subscriber templating  
!  
!  
!  
!  
!  
!  
multilink bundle-name authenticated  
!  
!  
!  
!  
!  
!  
!  
!  
!  
isdn switch-type primary-ni  
isdn logging  
!  
!  
trunk group Lumen1  
  hunt-scheme round-robin both up  
!  
!  
crypto pki trustpoint TP-self-signed-2930804041  
  enrollment selfsigned  
  subject-name cn=IOS-Self-Signed-Certificate-2930804041  
  revocation-check none
```

```
rsakeypair TP-self-signed-2930804041
!
crypto pki trustpoint SLA-TrustPoint
enrollment pkcs12
revocation-check crl
!
!
crypto pki certificate chain TP-self-signed-2930804041
certificate self-signed 01
  30820330 30820218 A0030201 02020101 300D0609 2A864886 F70D0101
05050030
  31312F30 2D060355 04031326 494F532D 53656C66 2D536967 6E65642D
43657274
  69666963 6174652D 32393330 38303430 3431301E 170D3231 30383235
31373434
  32335A17 0D333130 38323531 37343432 335A3031 312F302D 06035504
03132649
  4F532D53 656C662D 5369676E 65642D43 65727469 66696361 74652D32
39333038
  30343034 31308201 22300D06 092A8648 86F70D01 01010500 0382010F
00308201
  0A028201 0100B05D 6404776B 743D882D FA0514D1 B28392BC 5279F3A7
EE856A86
  A16EA023 E8519284 84BE4C53 20D12592 CD6CD6A4 2418E7D4 3E7945EA
35331308
  3A291C93 03A1B3BD 815B4881 CE12DF15 5B492BFC AEE637A5 C8718365
A723E3E5
  6814D270 E99D05E9 EF0A01AC 87543061 D7B1B45B B85CB576 312526A9
9B3FD2F0
  E869CC4B 31AC96CA DA6418E2 E23CE22A B34E98CE 0E32AD07 D9545EF7
3C76A7BA
  097D499A 2D685370 87AEA804 757E9EEC F11E93D9 69317B04 09FB7681
92903E6D
  2446F174 A8B50A8F 3DA47D2B 7BE0223D 43949C5E 1367C6EC AB0782A5
0C53F3AA
  E8948819 6032AC4A E7EDB9EE 5918760D 2F77E05A 3B731C75 90ABE1E8
E70CF701
  0453E70A 9BD70203 010001A3 53305130 0F060355 1D130101 FF040530
030101FF
```

301F0603 551D2304 18301680 146A2B1A 396299A5 D5C48E66 C168A8EB
1C918AAD

1F301D06 03551D0E 04160414 6A2B1A39 6299A5D5 C48E66C1 68A8EB1C
918AAD1F

300D0609 2A864886 F70D0101 05050003 82010100 50CE007B ED2C971F
11BFD5AD

C8209572 71329248 39228164 7671DB39 8B0CA99C 4494A052 6BA9D111
6557AE9E

D5A1B08D EDD2A603 6062E13D E957E3C0 932E13D4 8AF6B1E7 B8ED3F12
276A068D

A57A1D90 4C268FD0 395BA4ED 8795AB00 184D9C45 81FB0490 EF0DDF37
67361050

AD1A1019 3910AAD4 7F308B5F 572E70D8 13B8F3A2 547FA4DD 64049940
5E62AED2

B1D2CAD3 110202BD DC29AD8F 8DBF6C63 24C94B38 3F2B7FBB 7940F46D
1AB1C6F1

DE2B5808 76839852 C65AA788 F935764E 6F23855A 2BC3D3F7 4AAD12F3
48C6D653

08BC6A87 F855D660 DCCA1558 24210AEF 35019381 F14C42EE DE9EE209
843DF419

8BB84432 66CB0D65 0E3C9695 4BE0A520 30C4E762

quit

crypto pki certificate chain SLA-TrustPoint

certificate ca 01

30820321 30820209 A0030201 02020101 300D0609 2A864886 F70D0101
0B050030

32310E30 0C060355 040A1305 43697363 6F312030 1E060355 04031317
43697363

6F204C69 63656E73 696E6720 526F6F74 20434130 1E170D31 33303533
30313934

3834375A 170D3338 30353330 31393438 34375A30 32310E30 0C060355
040A1305

43697363 6F312030 1E060355 04031317 43697363 6F204C69 63656E73
696E6720

526F6F74 20434130 82012230 0D06092A 864886F7 0D010101 05000382
010F0030

82010A02 82010100 A6BCBD96 131E05F7 145EA72C 2CD686E6 17222EA1
F1EFF64D

CBB4C798 212AA147 C655D8D7 9471380D 8711441E 1AAF071A 9CAE6388
8A38E520

1C394D78 462EF239 C659F715 B98C0A59 5BBB5CBD 0CFEBEA3 700A8BF7
D8F256EE

4AA4E80D DB6FD1C9 60B1FD18 FFC69C96 6FA68957 A2617DE7 104FDC5F
EA2956AC

7390A3EB 2B5436AD C847A2C5 DAB553EB 69A9A535 58E9F3E3 C0BD23CF
58BD7188

68E69491 20F320E7 948E71D7 AE3BCC84 F10684C7 4BC8E00F 539BA42B
42C68BB7

C7479096 B4CB2D62 EA2F505D C7B062A4 6811D95B E8250FC4 5D5D5FB8
8F27D191

C55F0D76 61F9A4CD 3D992327 A8BB03BD 4E6D7069 7CBADF8B DF5F4368
95135E44

DFC7C6CF 04DD7FD1 02030100 01A34230 40300E06 03551D0F 0101FF04
04030201

06300F06 03551D13 0101FF04 05300301 01FF301D 0603551D 0E041604
1449DC85

4B3D31E5 1B3E6A17 606AF333 3D3B4C73 E8300D06 092A8648 86F70D01
010B0500

03820101 00507F24 D3932A66 86025D9F E838AE5C 6D4DF6B0 49631C78
240DA905

604EDCDE FF4FED2B 77FC460E CD636FDB DD44681E 3A5673AB 9093D3B1
6C9E3D8B

D98987BF E40CBD9E 1AECA0C2 2189BB5C 8FA85686 CD98B646 5575B146
8DFC66A8

467A3DF4 4D565700 6ADF0F0D CF835015 3C04FF7C 21E878AC 11BA9CD2
55A9232C

7CA7B7E6 C1AF74F6 152E99B7 B1FCF9BB E973DE7F 5BDDEB86 C71E3B49
1765308B

5FB0DA06 B92AFE7F 494E8A9E 07B85737 F3A58BE1 1A48A229 C37C1E69
39F08678

80DDCD16 D6BACECA EEBC7CF9 8428787B 35202CDC 60E4616A B623CDBD
230E3AFB

418616A9 4093E049 4D10AB75 27E86F73 932E35B5 8862FDAE 0275156F
719BB2F0

D697DF7F 28

quit

!

crypto pki certificate pool

! ('certificate ca' cmd has been deprecated. Downloaded

```
! Trustpool certificates should be re-downloaded
! using 'crypro pki trustpool import url <url>')
!
!
!
voice call send-alert
voice rtp send-recv
!
voice service voip
  ip address trusted list
    ipv4 3.80.16.0 255.255.255.0
    ipv4 10.64.4.80 255.255.255.255
  address-hiding
  mode border-element
  allow-connections sip to sip
  no supplementary-service sip refer
  supplementary-service media-renegotiate
  fax protocol t38 version 3 ls-redundancy 0 hs-redundancy 0 fallback
  none
  trace
  sip
    session refresh
    asserted-id pai
    early-offer forced
    midcall-signaling passthru
    privacy-policy passthru
    g729 annexb-all
  !
  !
voice class uri Xmedius sip
  host 10.64.4.80
voice class codec 1
  codec preference 1 g711ulaw
```

```
!  
!  
!  
!  
voice class e164-pattern-map 890  
  e164 +191.....$  
!  
!  
!  
!  
!  
voice translation-rule 10  
  rule 1 /\(^.....$\)/ /+1\1/  
!  
voice translation-rule 11  
  rule 1 /\(^.....$\)/ /+1\1/  
!  
voice translation-rule 20  
  rule 1 /\^+1\(.*\)/ /\1/  
!  
!  
voice translation-profile Amazon-In  
  translate called 20  
!  
voice translation-profile Amazon-Out  
  translate calling 11  
  translate called 10  
!  
!  
!  
!  
!  
!
```

```
voice-card 0/1
  dsp services dspfarm
  no watchdog
!
voice-card 0/2
  no watchdog
!
voice-card 0/4
  no watchdog
!
no license feature hseck9
license udi pid ISR4331/K9 sn FD021381F17
license accept end user agreement
license boot level appxk9
license boot level uck9
license boot level securityk9
memory free low-watermark processor 69085
!
diagnostic bootup level minimal
!
spanning-tree extend system-id
!
!
redundancy
  mode none
!
!
!
!
!
controller T1 0/1/0
  framing esf
  clock source network
```



```
!  
!  
!  
interface GigabitEthernet0/0/0  
  description Access01 G4/0/1  
  shutdown  
  ip address 192.65.XX.XX 255.255.255.224  
  negotiation auto  
!  
interface GigabitEthernet0/0/1  
  description Access 01 G4/0/13  
  ip address 10.64.4.4 255.255.0.0  
  media-type rj45  
  negotiation auto  
!  
interface GigabitEthernet0/0/2  
  description Access01 G4/0/7  
  ip address 192.65.XX.XX 255.255.255.128  
  media-type sfp  
  negotiation auto  
!  
interface Service-Engine0/1/0  
!  
interface Serial0/1/0:23  
  no ip address  
  encapsulation hdlc  
  no cdp enable  
  isdn switch-type primary-ni  
  isdn incoming-voice voice  
!  
interface Service-Engine0/2/0  
!  
interface Service-Engine0/4/0
```

```
!  
interface GigabitEthernet0  
  vrf forwarding Mgmt-intf  
  no ip address  
  negotiation auto  
!  
ip http server  
ip http authentication local  
ip http secure-server  
ip http client source-interface GigabitEthernet0/0/2  
ip forward-protocol nd  
ip ftp username admin  
ip ftp password 7 011202095205  
ip route 0.0.0.0 0.0.0.0 192.65.xx.xx  
ip route 10.64.0.0 255.255.0.0 10.64.1.1  
ip route 172.0.0.0 255.0.0.0 10.64.1.1  
!  
!  
!  
!  
!  
!  
!  
control-plane  
!  
!  
voice-port 0/2/0:1  
!  
voice-port 0/1/0:23  
  bearer-cap Speech  
!  
mgcp behavior rsip-range tgcp-only  
mgcp behavior comedia-role none
```

```
mgcp behavior comedia-check-media-src disable
mgcp behavior comedia-sdp-force disable
!
mgcp profile default
!
!
!
!
dial-peer voice 100 voip
  description *** Inbound Dial-Peer- from Xmedius to CUBE ***
  session protocol sipv2
  session transport udp
  incoming uri via Xmedius
  voice-class codec 1
  voice-class sip bind control source-interface GigabitEthernet0/0/1
  voice-class sip bind media source-interface GigabitEthernet0/0/1
  dtmf-relay rtp-nte
  no vad
!
dial-peer voice 101 voip
  description *** Outbound Dial-Peer to Xmedius****
  destination-pattern 919.....
  session protocol sipv2
  session target ipv4:10.64.4.80:5060
  session transport udp
  voice-class codec 1
  voice-class sip options-keepalive
  voice-class sip bind control source-interface GigabitEthernet0/0/1
  voice-class sip bind media source-interface GigabitEthernet0/0/1
  dtmf-relay rtp-nte
  no vad
!
dial-peer voice 200 voip
```

```
description *** Inbound Dial-Peer- from Amazon to CUBE ***
translation-profile incoming Amazon-In
session protocol sipv2
session transport udp
incoming called e164-pattern-map 890
voice-class codec 1
voice-class sip bind control source-interface GigabitEthernet0/0/2
voice-class sip bind media source-interface GigabitEthernet0/0/2
dtmf-relay rtp-nte
no vad
!
dial-peer voice 201 voip
description *** Outbound Dial-Peer to Amazon****
translation-profile outgoing Amazon-Out
destination-pattern [0-9]T
session protocol sipv2
session target sip-server
session transport udp
voice-class codec 1
voice-class sip localhost
dns:hydpgl16qdjye6XXXXXXXXX.voiceconnector.chime.aws
voice-class sip options-keepalive
voice-class sip bind control source-interface GigabitEthernet0/0/2
voice-class sip bind media source-interface GigabitEthernet0/0/2
dtmf-relay rtp-nte
no vad
!
!
gateway
timer receive-rtp 1200
!
sip-ua
no remote-party-id
```

```
  sip-server dns:hydpgl16qdjye6XXXXXXXXX.voiceconnector.chime.aws:5060
!
!
line con 0
  exec-timeout 5 0
  password 7 0822455D0A16
  logging synchronous
  login
  stopbits 1
line aux 0
line vty 0 4
  exec-timeout 30 0
  password 7 104D000A0618
  logging synchronous
  login
  transport input telnet
line vty 5 14
  login
  transport input ssh
!
network-clock synchronization automatic
call-home
  ! If contact email address in call-home is configured as sch-smart-
  licensing@cisco.com
  ! the email address configured in Cisco Smart License Portal will be
  used as contact email address to send SCH notifications.
  contact-email-addr sch-smart-licensing@cisco.com
  profile "CiscoTAC-1"
    active
    destination transport-method http
ntp server 10.10.10.5
!
end
```