AudioCodes Configuration Guide for TransNexus NexOSS-FC

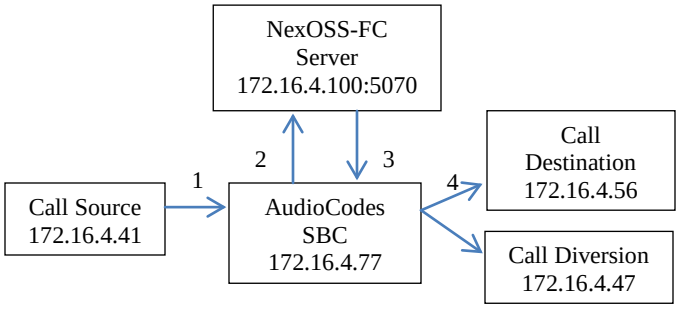
April 13, 2015

1 Introduction

NexOSS-FC is a TransNexus product designed to provide real time telecom fraud prevention for enterprises and services providers. NexOSS-FC complements the AudioCodes Session Border Controller (SBC) as a SIP redirect server that identifies and blocks fraudulent calls. If no changes are made in the SBC, NexOSS-FC will detect and block fraudulent calls based on the telephone number of the calling party. However, NexOSS-FC can also provide telecom fraud detection based on the source IP address of the calling party if this information is available. This document provides instructions on how to configure AudioCodes SBC to pass the source IP address to NexOSS-FC for enhanced fraud protection.

2 NexOSS-FC Solution

NexOSS-FC solution is configured as a SIP redirect server. The following diagram illustrates how NexOSS-FC interoperates with the AudioCodes SBC.



Devices in test bed:

Call Source: 172.16.4.41
AudioCodes SBC: 172.16.4.77
NexOSS-FC Server: 172.16.4.100:5070
Call Destination: 172.16.4.56
Call Diversion: 172.16.4.47
(Call diversion can be used to route fraudulent calls to specific IP address for additional security measures, such as call recording, to collect additional information about the fraudulent call and calling party.)

SIP Messages:

1. Call Source sends a SIP INVITE to AudioCodes SBC.
2. AudioCodes forwards the SIP INVITE to NexOSS-FC Server.
   Note: This call scenario requires the call source IP address (as P-Source-Device header) be added in the SIP INVITE sent to NexOSS-FC. This document explains the required SBC configuration changes.
3. NexOSS-FC analyzes SIP INVITE to determine risk of toll fraud.
   a. If fraud is detected, SIP 603 Decline or SIP 300 Redirect (NexOSS-FC can also be configured to return SIP 302 Moved Temporarily instead of SIP 300 Redirect) is returned.
   b. If no fraud is detected, a SIP 404 Not Found is returned to the SBC.
4. AudioCodes handles the response from NexOSS-FC
   a. If SIP 603, call is blocked.

b. If SIP 300, SBC send SIP INVITE to the diversion device in the redirect message contact header. This feature is used for call diversion.
c. If SIP 404, SBC sends SIP INVITE to the next destination in local routing table.

Note: Step 4b and 4c require that the call source IP address added for step 2 (P-Source-Device header) be removed. This document explains the configuration changes.

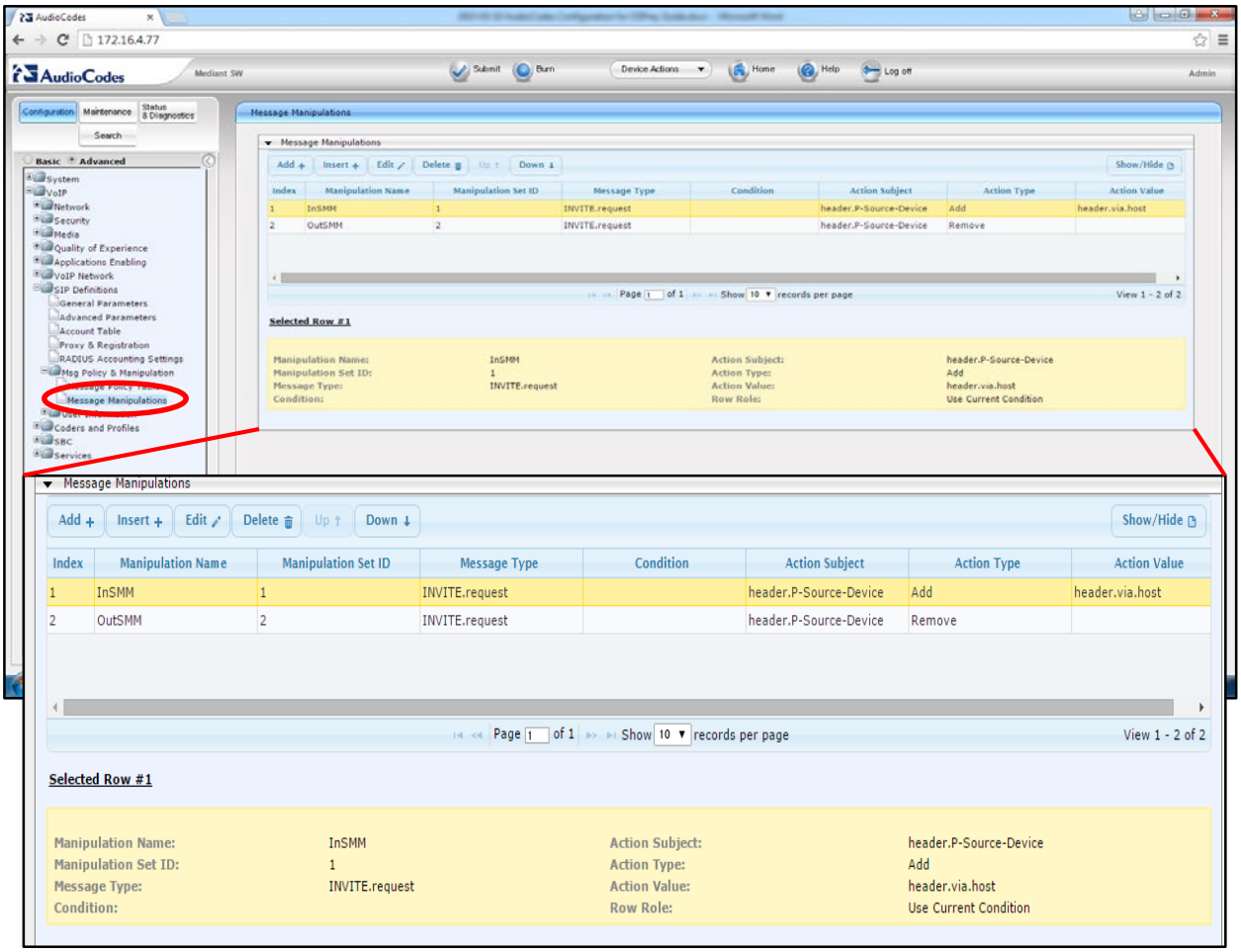
3 AudioCodes Configuration

The configuration includes two parts, SIP message manipulation configuration and redirect routing configuration. The SIP message manipulation rules are the primary configuration for this project.

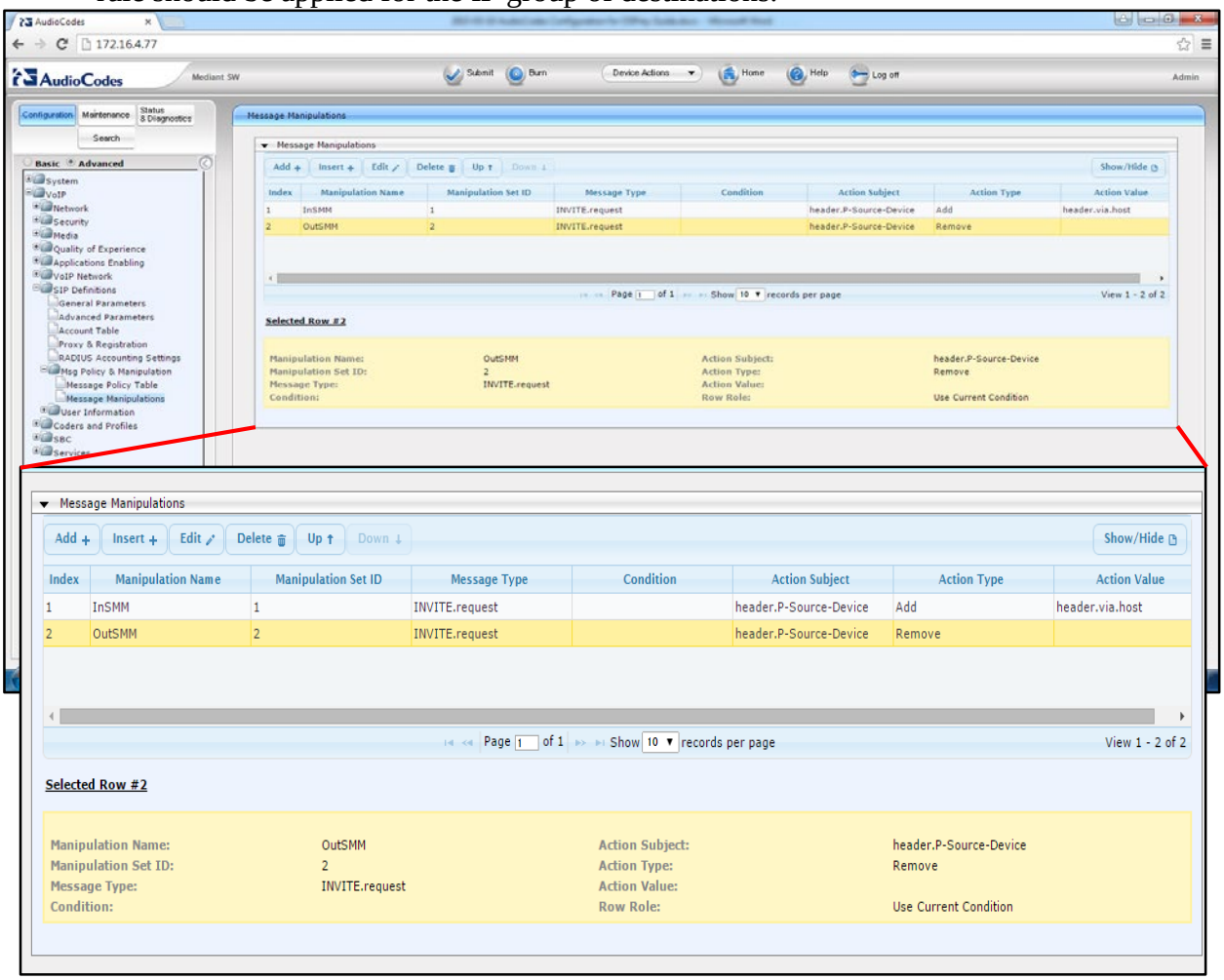
3.1 SIP Message Manipulation

Two SIP Message Manipulation rules should be configured.

1. SIP Manipulation rule InSMM is created to insert inbound SIP INVITE first Via header host (IP address of Source) as P-Source-Device header into the SIP INVITE messages to NexOSS-FC Server. This rule should be applied for the IP group of Source.



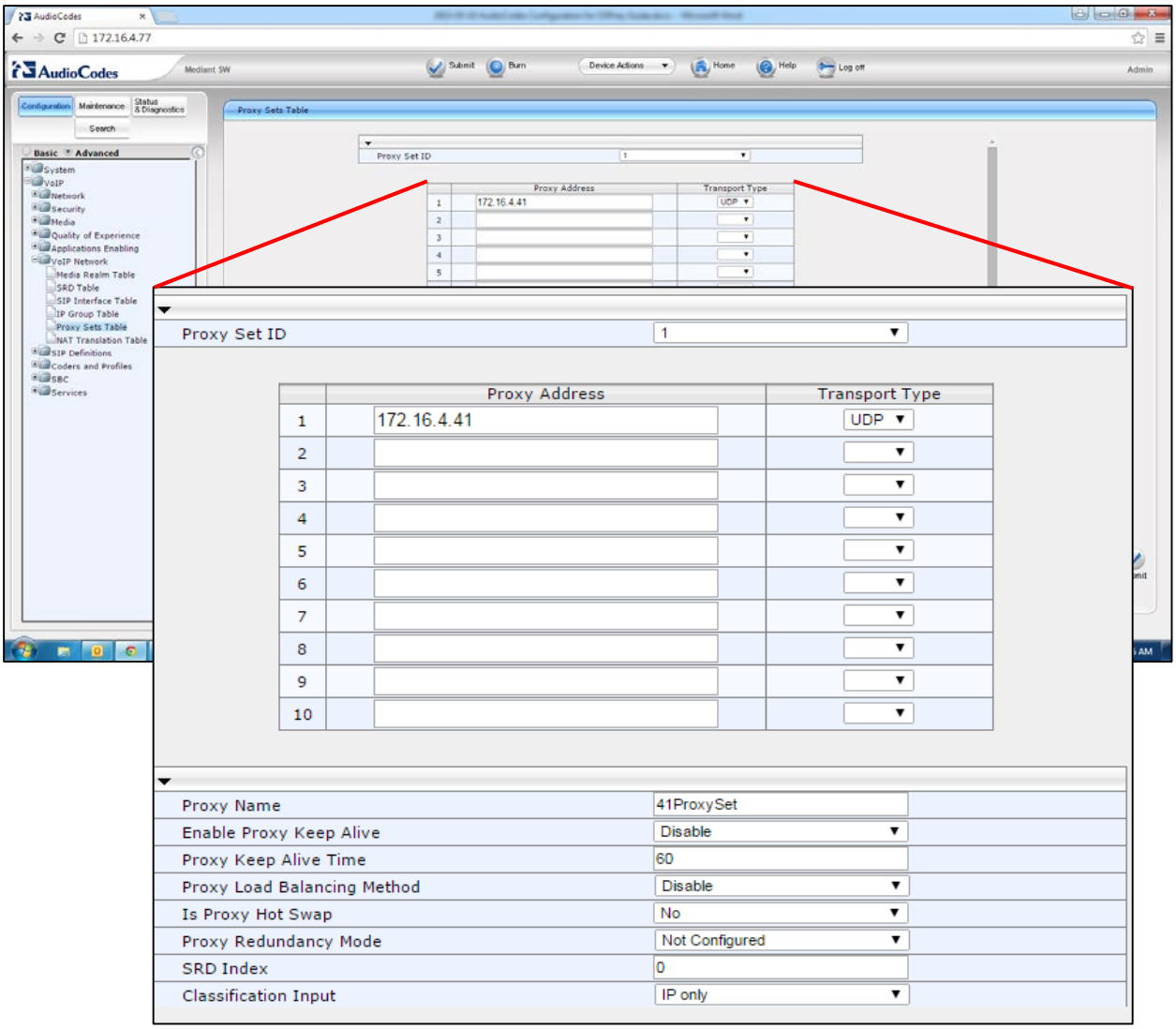
2. SIP Manipulation rule OutSMM is created to remove P-Source-Device header from the SIP INVITE messages to destinations to prevent leaking source device information. This rule should be applied for the IP group of destinations.



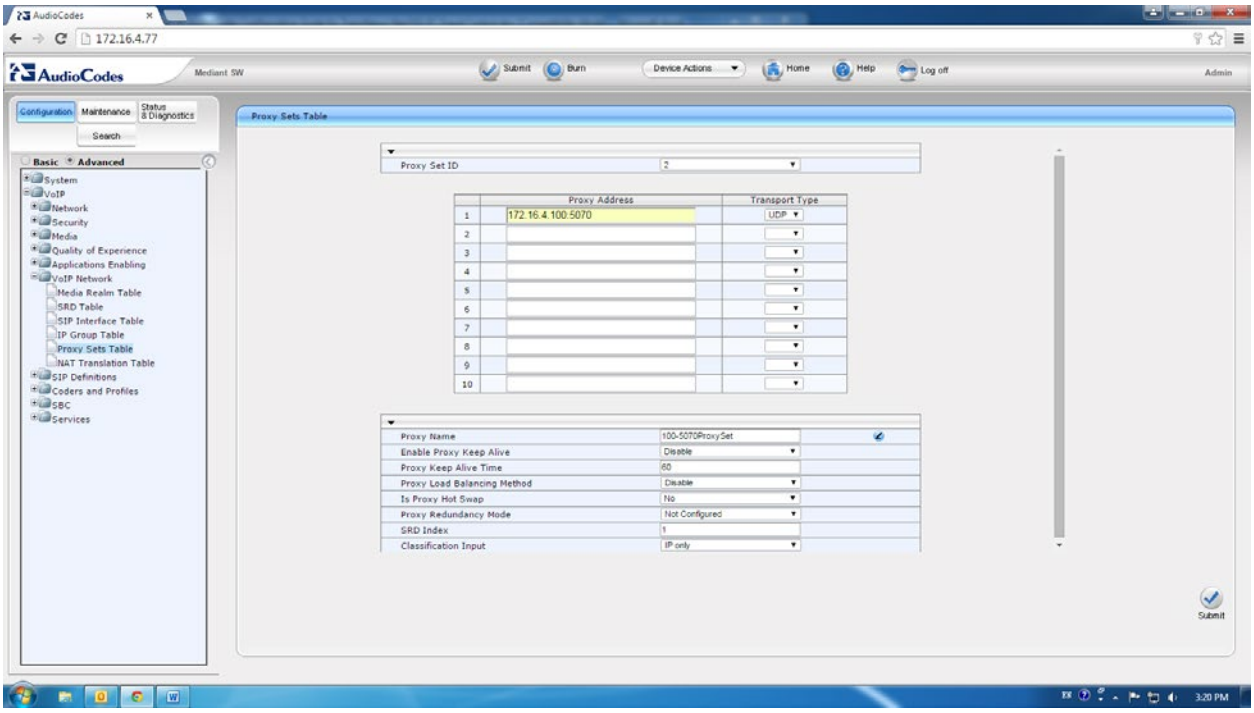
3.2 Proxy Sets

Four Proxy sets should be configured in the SBC.

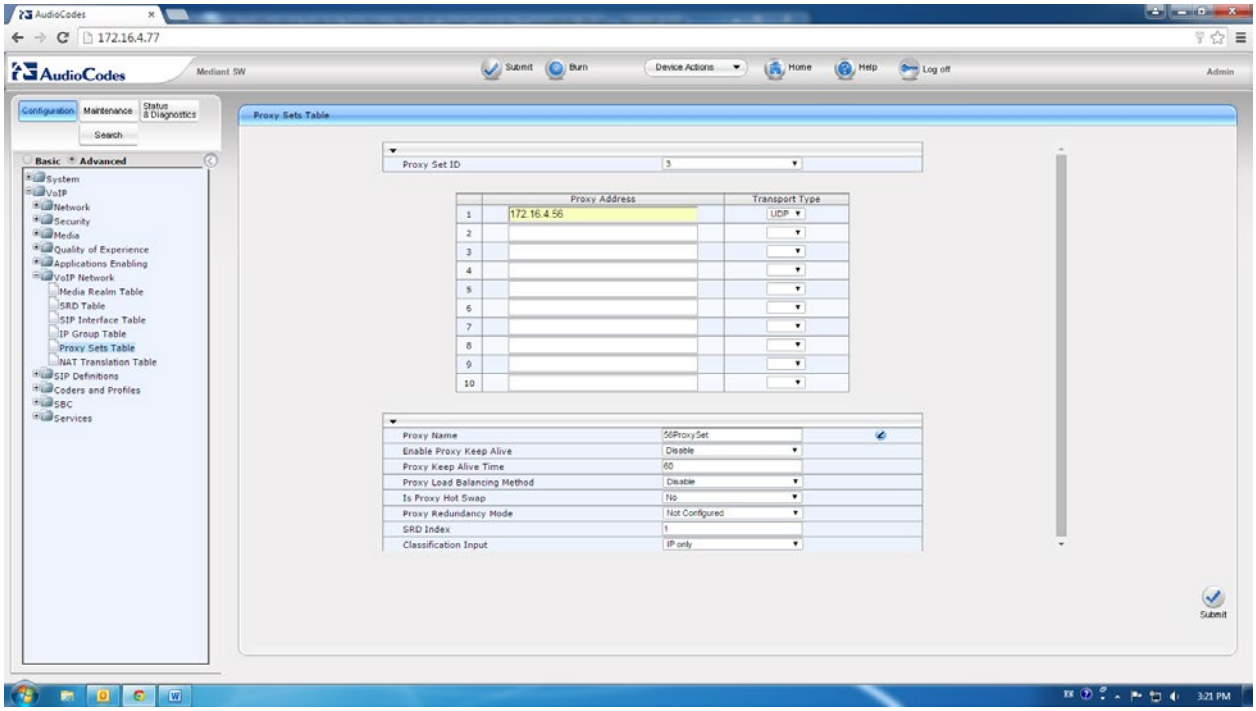
1. Proxy set for the Call Source - 172.16.4.41.



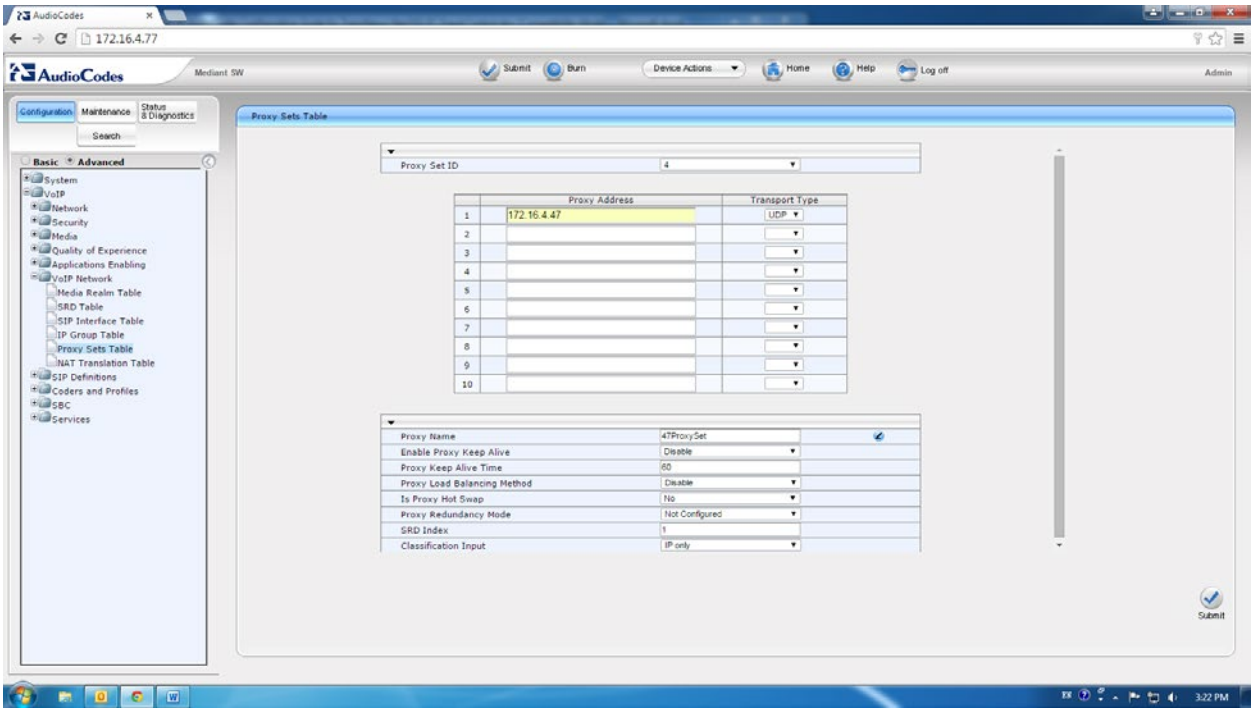
2. Redirect server proxy set for NexOSS-FC.



3. Destination proxy set for destination.



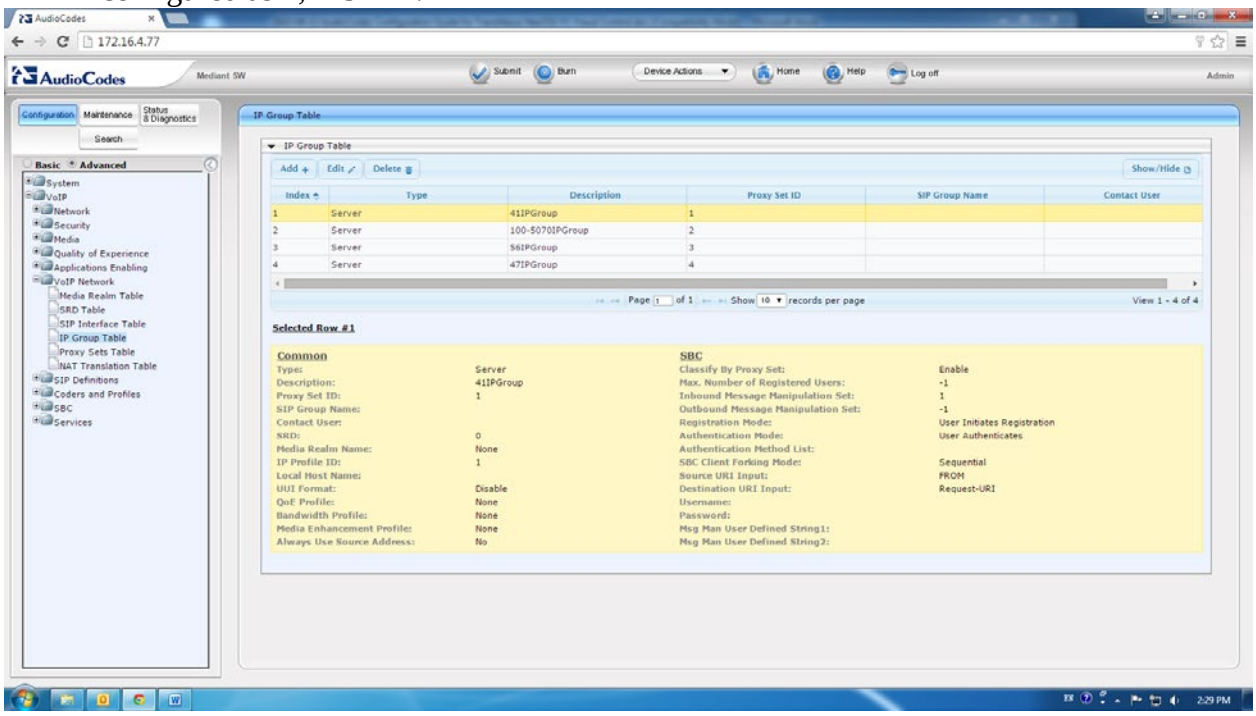
4. Diversion proxy set for diversion device.



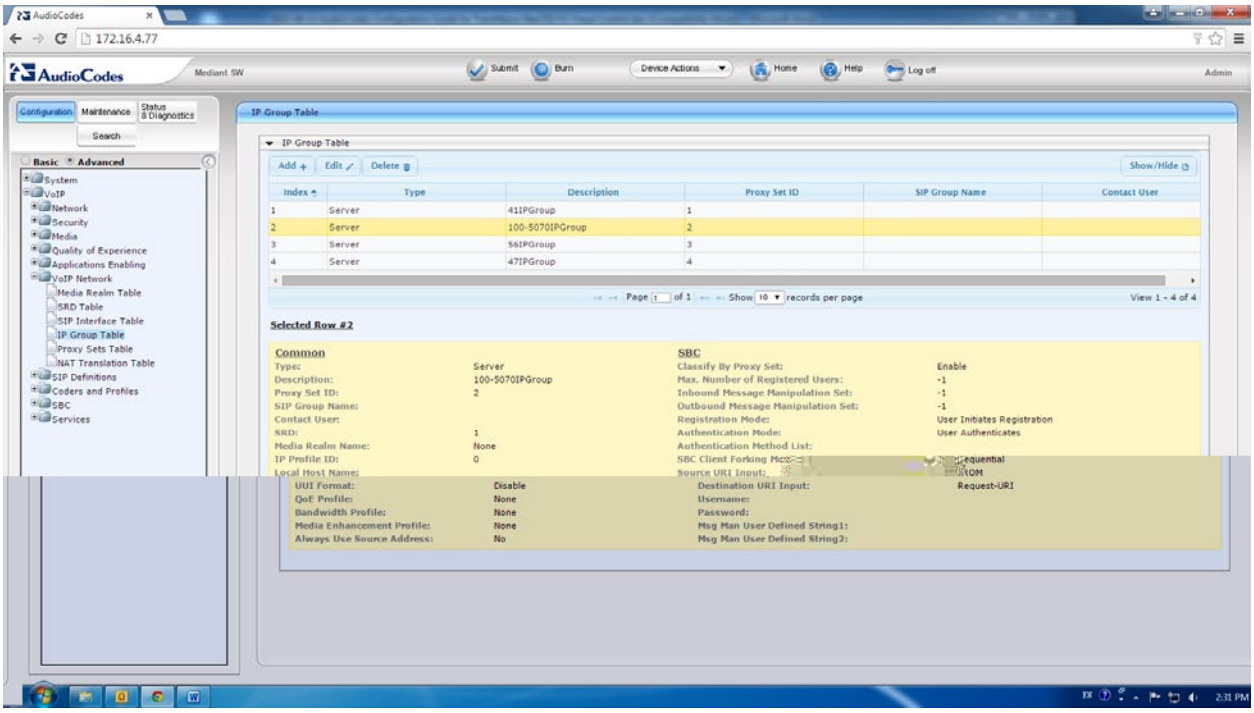
3.3 IP Group

Four IP groups should be configured.

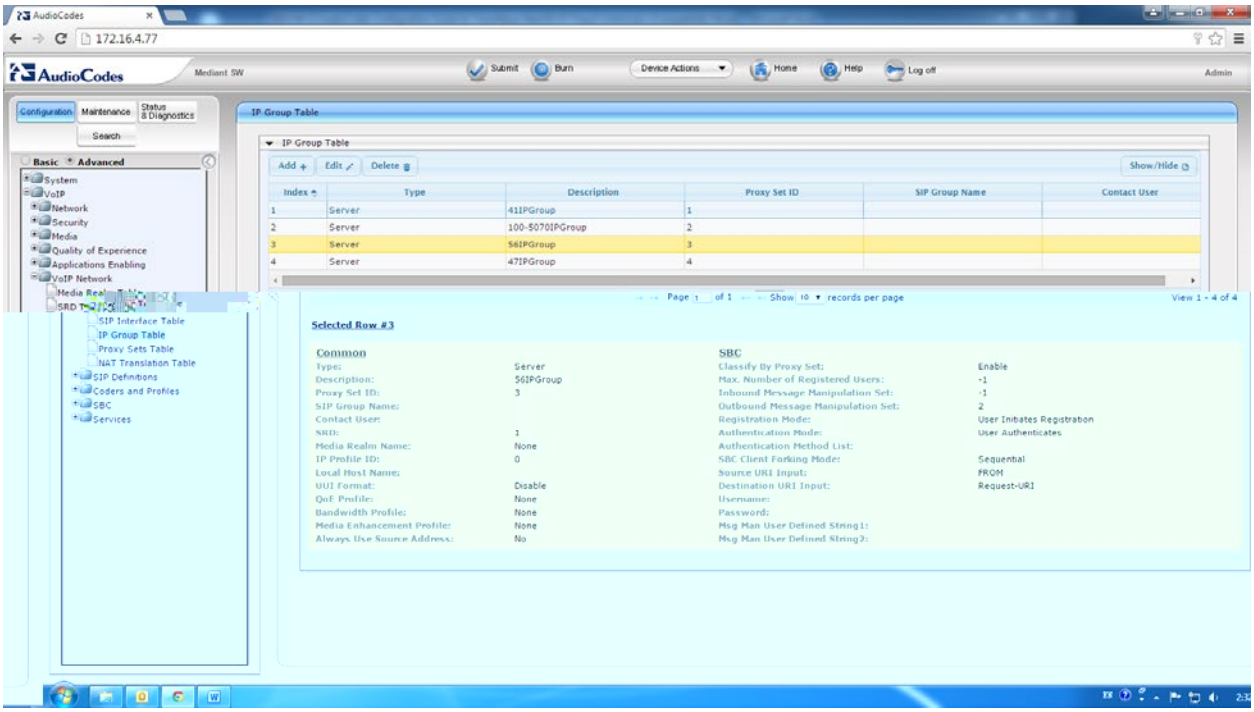
1. Source IP group for Source proxy set. Inbound message manipulation set should be configured as 1, InSMM.



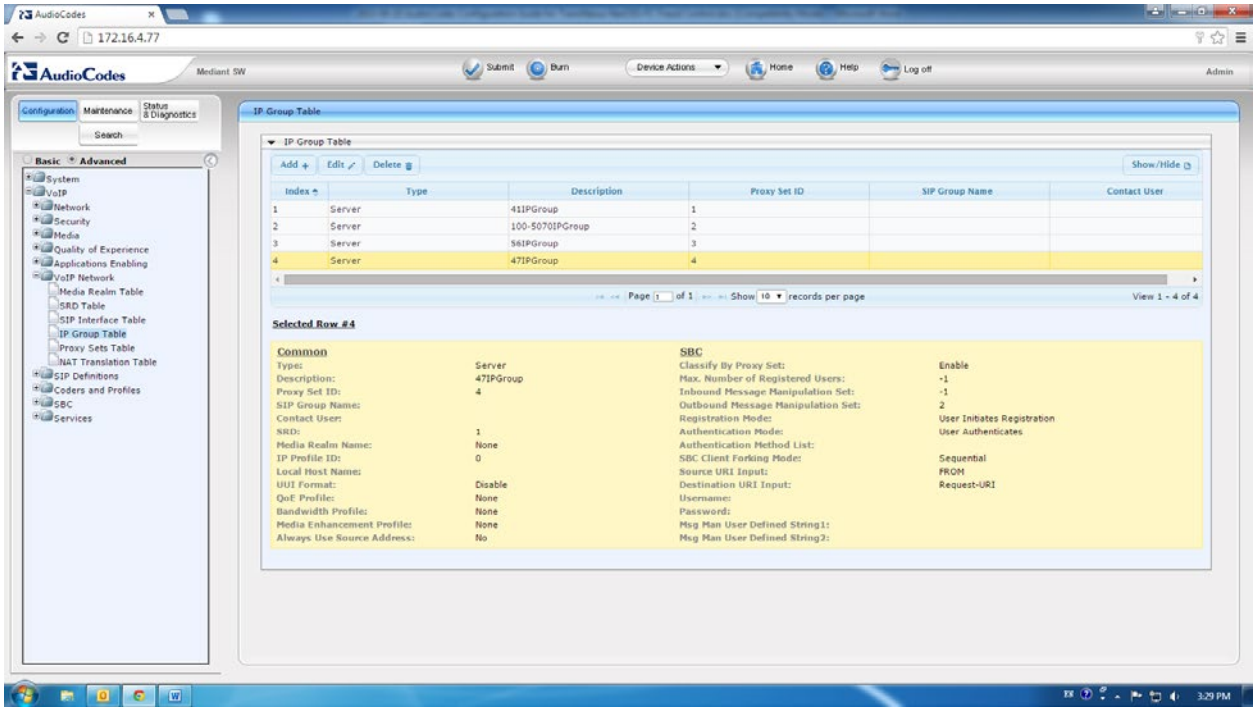
2. Redirect server IP group for redirect proxy set.



3. Destination IP group for destination proxy set. Outbound message manipulation set should be configured as 2, OutSMM.

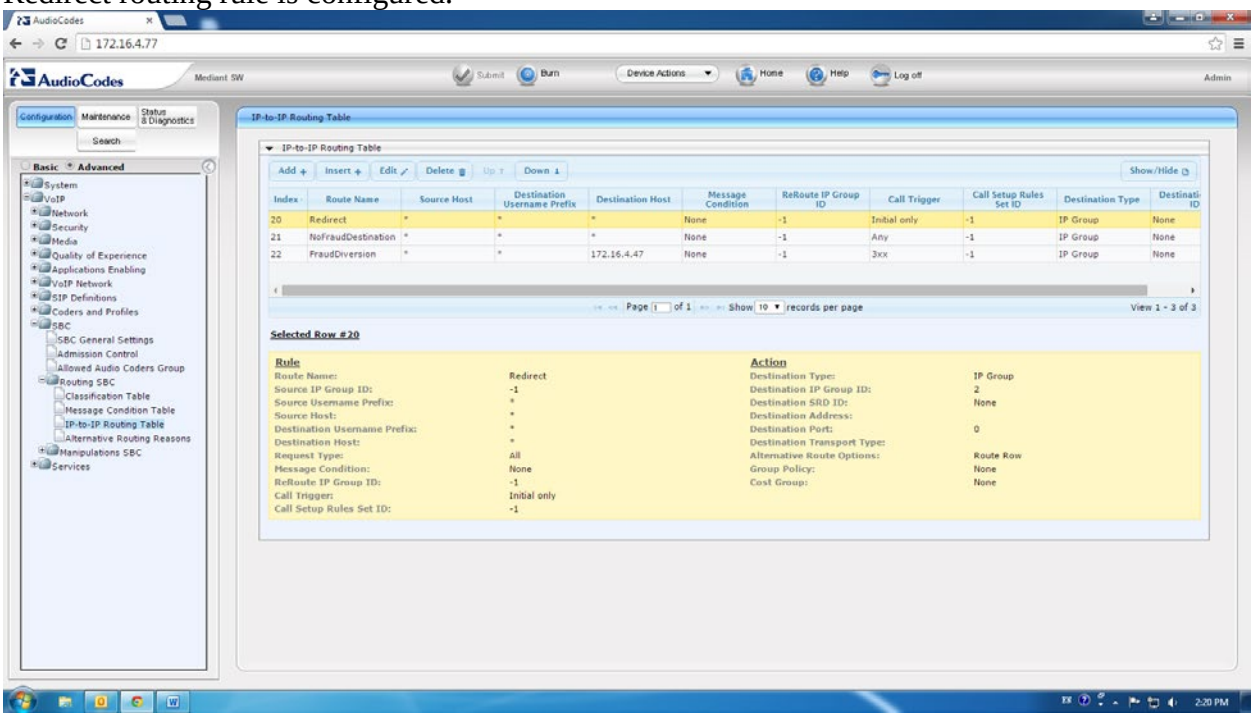


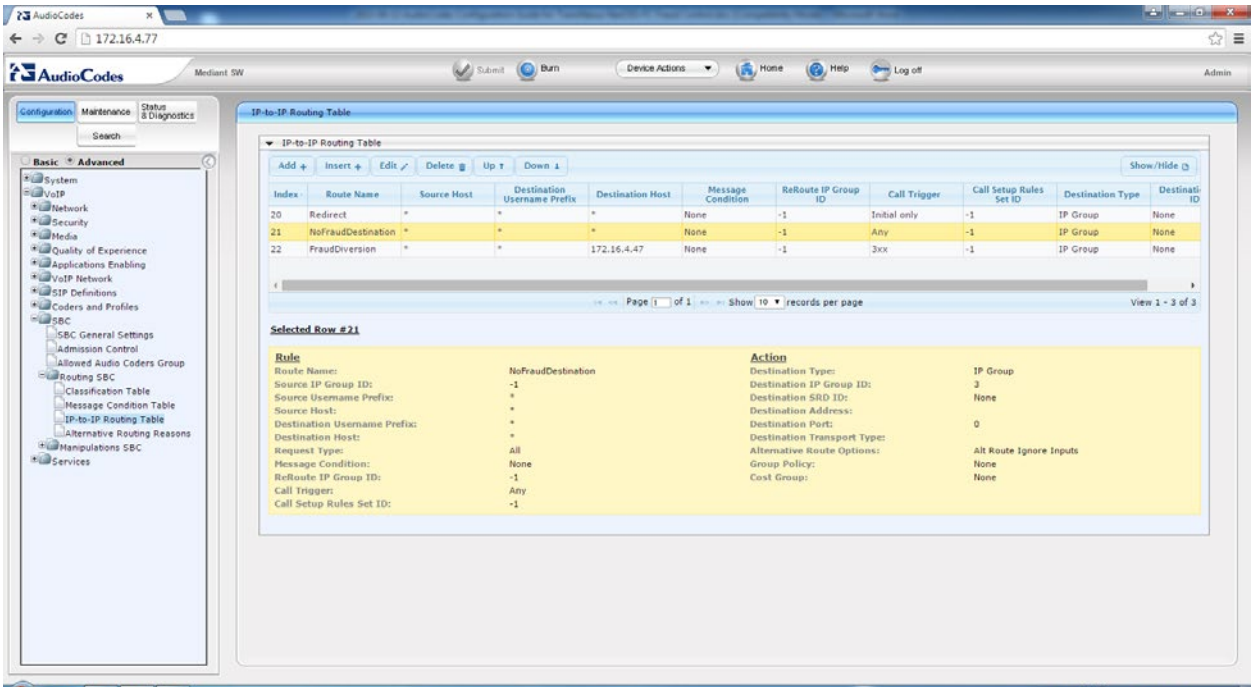
4. Diversion IP group for diversion proxy set. Outbound message manipulation set should be configured as 2, OutSMM.

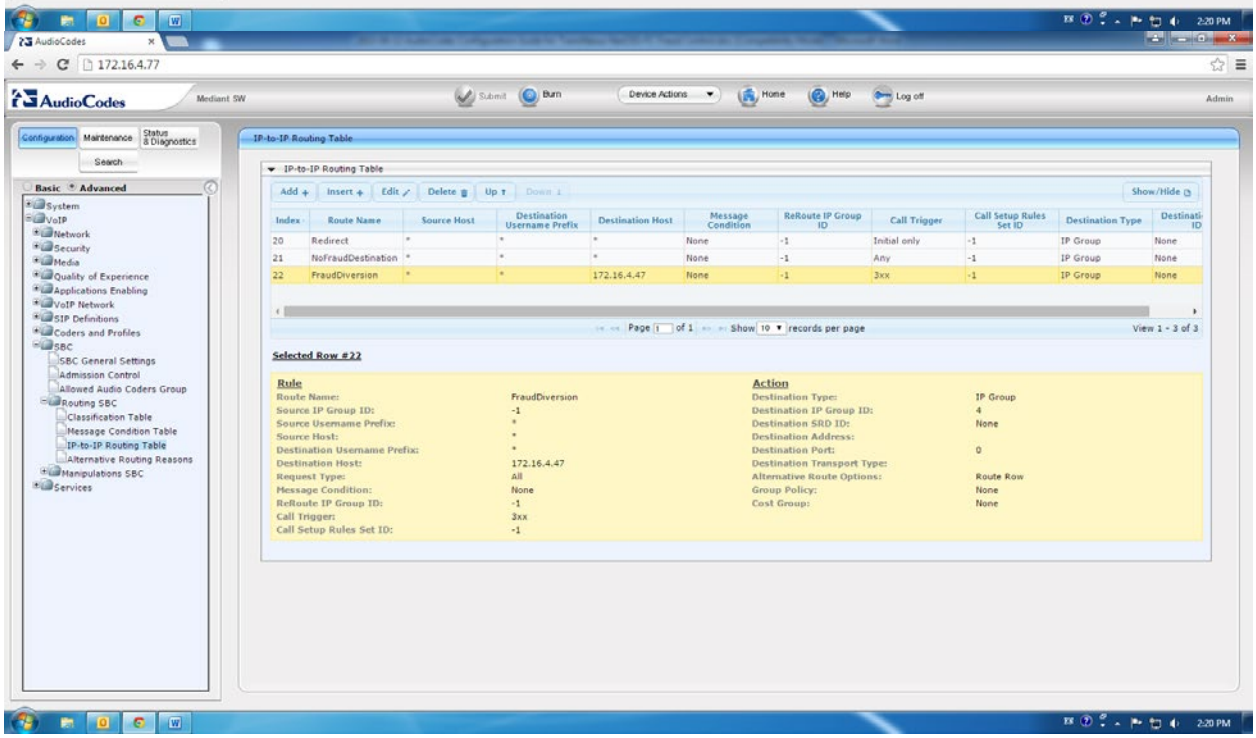


3.4 IP-to-IP Routing

Redirect routing rule is configured.







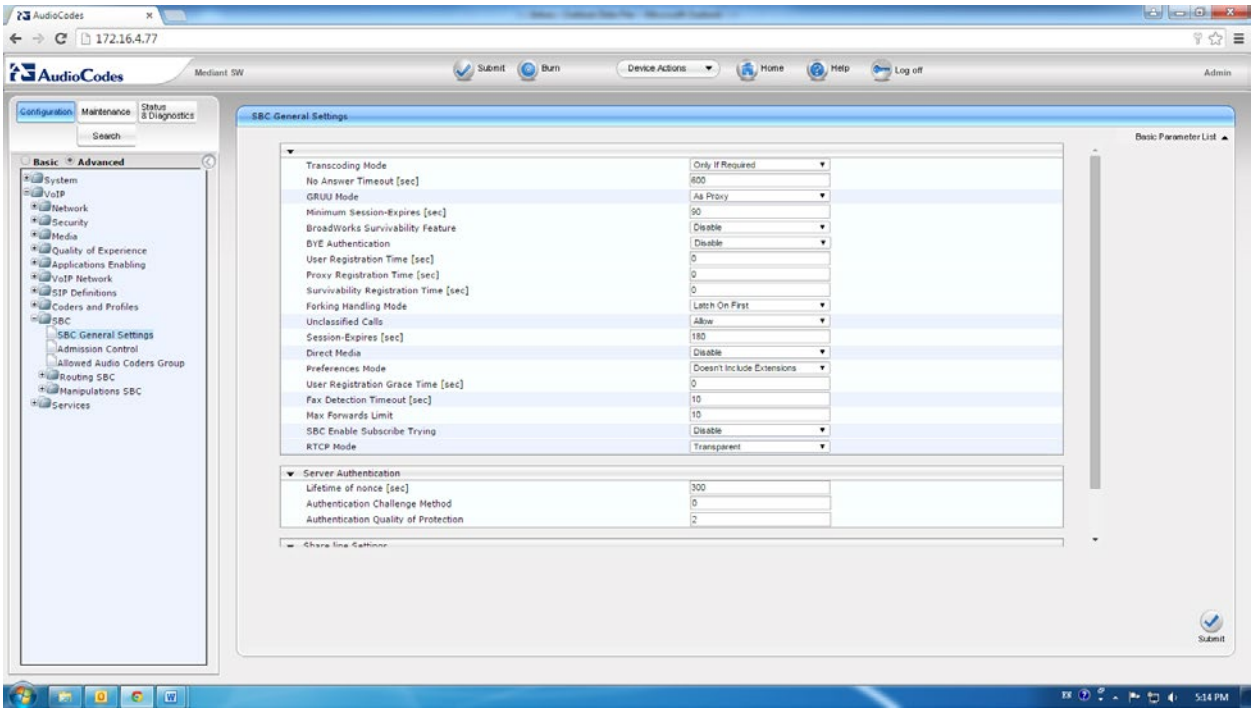
4 Unclassified Calls

It is possible to configure AudioCodes SBC to accept unclassified calls that their source devices are not configured in SBC explicitly. The logic is

1. Unclassified calls come in from SIP Interface configured with SRD UnclassifiedSRD.
2. AudioCodes SBC classifies the calls to the first Proxy Set/IP group configured with UnclassifiedSRD.
3. AudioCodes SBC routes the calls according to the IP group.

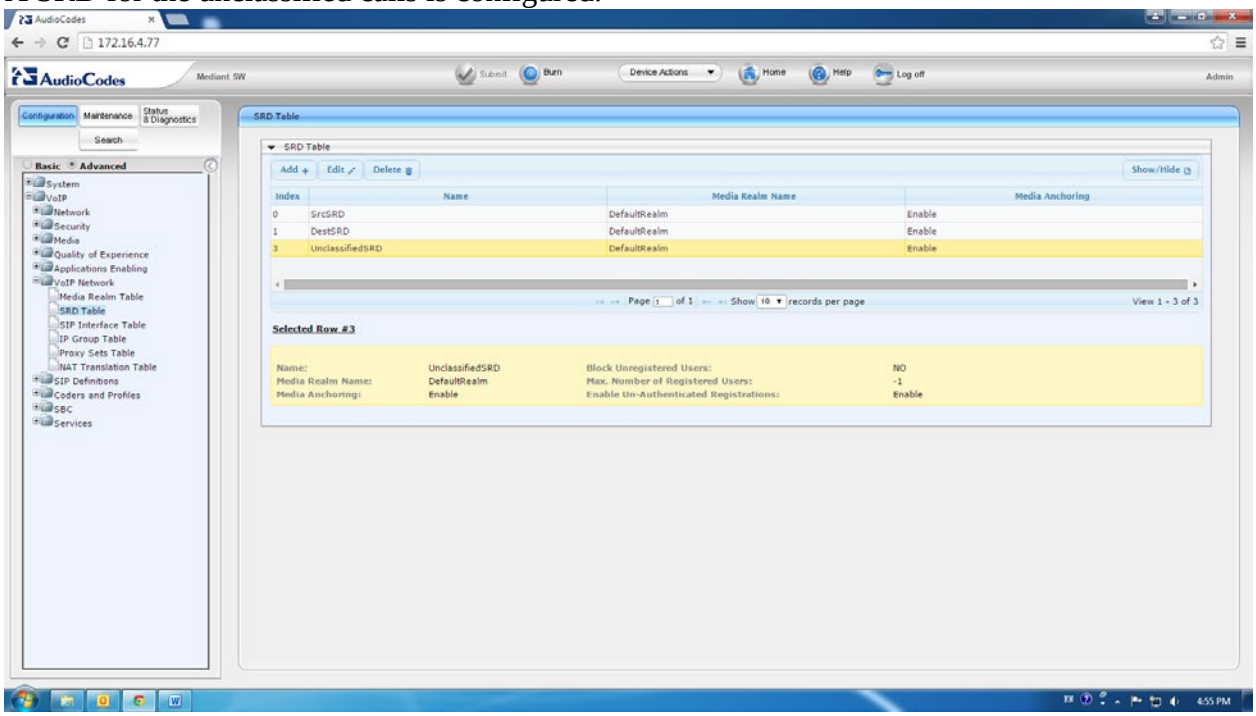
4.1 Enable Unclassified Calls

Unclassified calls must be allowed.



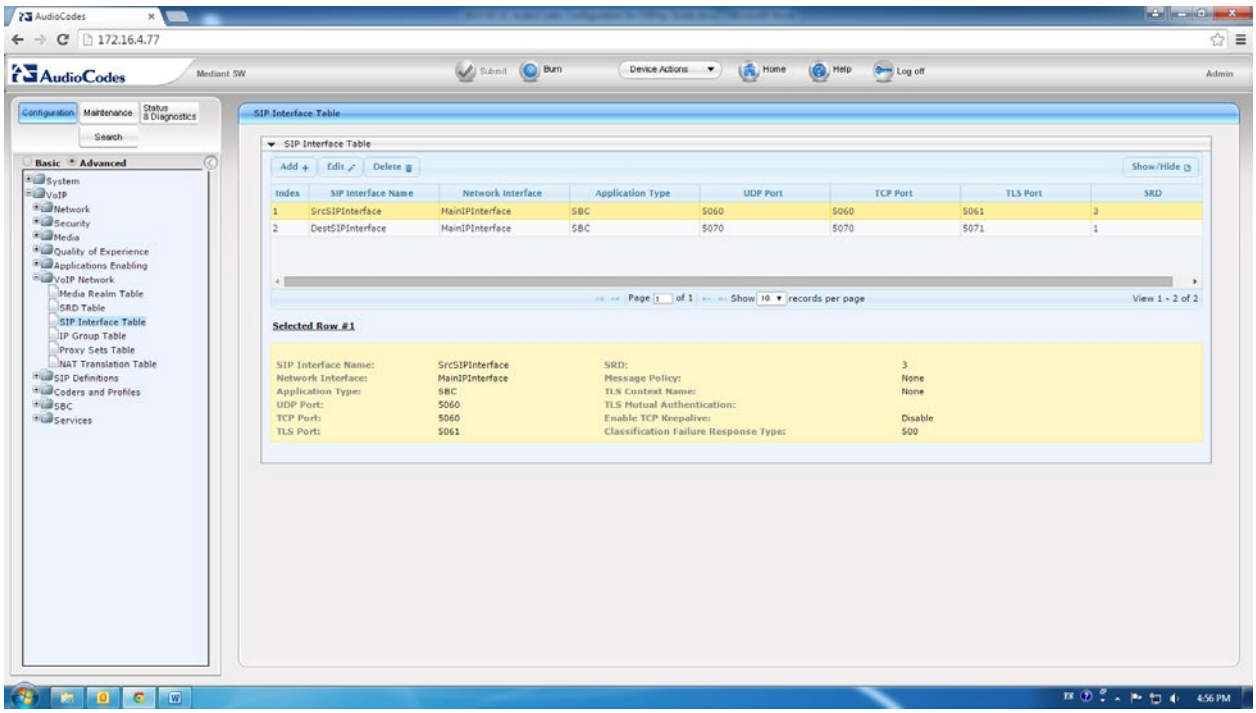
4.2 SRD (Signaling Routing Domains)

A SRD for the unclassified calls is configured.



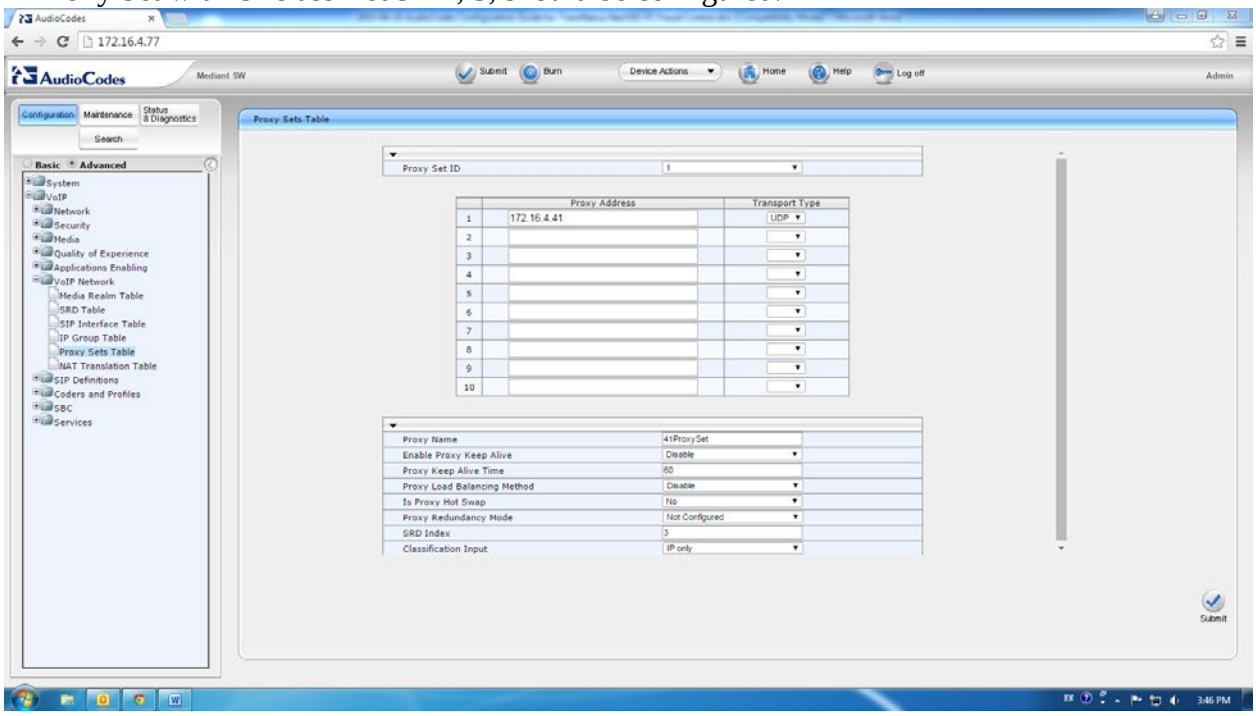
4.3 SIP Interface

The SIP Interface receiving the unclassified calls should be configured with SDR 3, UnclassifiedSRD.



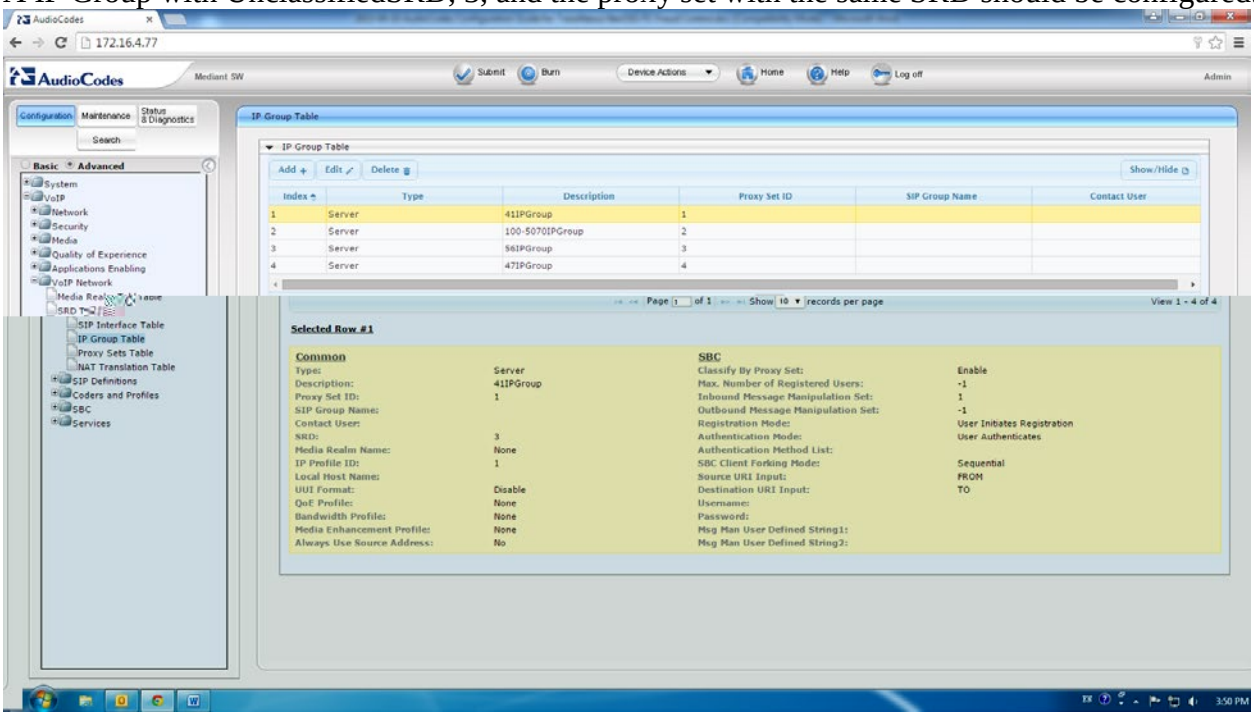
4.4 Proxy Sets

A Proxy Set with UnclassifiedSDR, 3, should be configured.



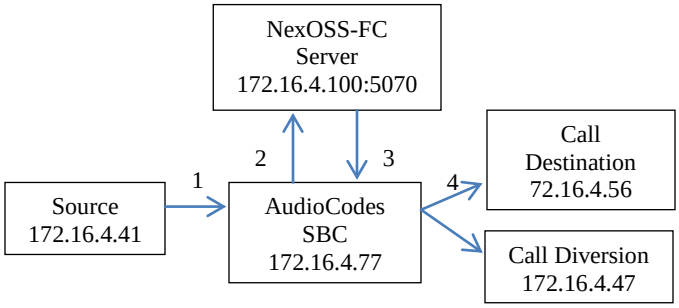
4.5 IP Group

A IP Group with UnclassifiedSRD, 3, and the proxy set with the same SRD should be configured.



5 Test Cases

Network Diagram:



Data Flow:

1. Source sends a SIP INVITE to AudioCodes SBC
2. AudioCodes forwards the SIP INVITE to NexOSS-FC Server
3. NexOSS-FC test cases
    a. Fraud is detected - block call, SIP 603 Decline is returned
    b. Fraud is detected - divert call, SIP 300 Redirect is returned.
    c. No fraud detected, SIP 404 Not Found returned
4. AudioCodes SBC routes, blocks or diverts the call based on the SIP message returned by NexOSS-FC.

5.1 Fraud Detected - SBC Blocks the Call - 603 Decline

In this test case, NexOSS-FC analysis determines high risk of fraud and returns a 603 Decline messages to the SBC. The SBC should block the call. The following SBC log documents the SIP messages for the fraud - block call use case.

1. **SIP INVITE from Source to SBC.**

```
12d:7h:50m:40s INVITE sip:14040000020@172.16.4.77:5060 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-5372-1-0
From: sipp <sip:1234567890@172.16.4.41:5060>;tag=5372SIPpTag001
To: sut <sip:14040000020@172.16.4.77:5060>
Call-ID: 1-5372@172.16.4.41
CSeq: 1 INVITE
Contact: sip:1234567890@172.16.4.41:5060
Max-Forwards: 70
Subject: Performance Test
Content-Type: application/sdp
Content-Length:   133

v=0
o=user1 53655765 2353687637 IN IP4 172.16.4.41
s=-
c=IN IP4 172.16.4.41
t=0 0
m=audio 6000 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

2. **SIP 100 Trying from SBC to Source**

```
12d:7h:50m:40s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-5372-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=5372SIPpTag001
To: sut <sip:14040000020@172.16.4.77>;tag=1c502521130
Call-ID: 1-5372@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

3. **SIP INVITE from SBC to NexOSS-FC**
   P-Source-Device header has been added to SIP INVITE

```
12d:7h:50m:40s INVITE sip:14040000020@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac504682112
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c504590555
To: sut <sip:14040000020@172.16.4.77>
Call-ID: 504579371123201575040@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Subject: Performance Test
Content-Type: application/sdp
Content-Length: 133
P-Source-Device: 172.16.4.41:5060

v=0
o=user1 504529370 504529337 IN IP4 172.16.4.77
s=-
c=IN IP4 172.16.4.77
t=0 0
m=audio 6010 RTP/AVP 8
```

```
a=rtpmap:8 PCMA/8000
```

4. SIP 100 Trying from NexOSS-FC to SBC

```
12d:7h:50m:40s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac504682112
From: sipp <sip:1234567890@172.16.4.41>;tag=1c504590555
To: sut <sip:14040000020@172.16.4.77>
Call-ID: 5045793711232015750 40@172.16.4.77
CSeq: 1 INVITE
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

5. SIP 603 Decline from NexOSS-FC to SBC

```
12d:7h:50m:40s SIP/2.0 603 Decline
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac504682112
From: sipp <sip:1234567890@172.16.4.41>;tag=1c504590555
To: sut <sip:14040000020@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.b445
Call-ID: 5045793711232015750 40@172.16.4.77
CSeq: 1 INVITE
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

6. SIP ACK from SBC to NexOSS-FC

```
12d:7h:50m:40s ACK sip:14040000020@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac504682112
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c504590555
To: sut <sip:14040000020@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.b445
Call-ID: 5045793711232015750 40@172.16.4.77
CSeq: 1 ACK
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

7. SIP 603 Decline from SBC to Source

```
12d:7h:50m:40s SIP/2.0 603 Decline
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-5372-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=5372SIPpTag001
To: sut <sip:14040000020@172.16.4.77>;tag=1c502521130
Call-ID: 1-5372@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

8. SIP ACK from Source to SBC

```
12d:7h:50m:40s ACK sip:14040000020@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-5372-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=5372SIPpTag001
To: sut <sip:14040000020@172.16.4.77>;tag=1c502521130
Call-ID: 1-5372@172.16.4.41
CSeq: 1 ACK
Contact: <sip:sipp@172.16.4.41:5060;transport=UDP>
Max-Forwards: 70
Subject: Performance Test
Content-Length: 0
```

5.2 Fraud Detected - SBC Divert the Call - SIP 300 Redirect

In this test case, NexOSS-FC determines the call is fraudulent, but has been configured to instruct the SBC to divert the call, not block the call. The following SBC log documents the SIP messages for this test case.

1. **SIP INVITE from Source to SBC.**

```
10d:3h:8m:2s INVITE sip:14040000022@172.16.4.77:5060 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-2690-1-0
From: sipp <sip:1234567890@172.16.4.41:5060>;tag=2690SIPpTag001
To: sut <sip:14040000022@172.16.4.77:5060>
Call-ID: 1-2690@172.16.4.41
CSeq: 1 INVITE
Contact: sip:1234567890@172.16.4.41:5060
Max-Forwards: 70
Subject: Performance Test
Content-Type: application/sdp
Content-Length:   133

v=0
o=user1 53655765 2353687637 IN IP4 172.16.4.41
s=-
c=IN IP4 172.16.4.41
t=0 0
m=audio 6000 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

2. **SIP 100 Trying from SBC to Source**

```
10d:3h:8m:2s (      lgr_flow)(      1744)  ---- Outgoing SIP Message to
172.16.4.41:5060 from SIPInterface #1 UdpTransportObject(#1) ----

10d:3h:8m:2s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-2690-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=2690SIPpTag001
To: sut <sip:14040000022@172.16.4.77>;tag=1c549823236
Call-ID: 1-2690@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

3. **SIP INVITE from SBC to NexOSS-FC**
   P-Source-Device header has been added to SIP INVITE

```
10d:3h:8m:2s INVITE sip:14040000022@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac553199308
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c552885972
To: sut <sip:14040000022@172.16.4.77>
Call-ID: 5528631081032015382@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Subject: Performance Test
Content-Type: application/sdp
Content-Length: 133
P-Source-Device: 172.16.4.41:5060

v=0
o=user1 552761828 552761732 IN IP4 172.16.4.77
s=-
```

```
c=IN IP4 172.16.4.77
t=0 0
m=audio 6000 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

4. SIP 100 Trying from NexOSS-FC to SBC

```
10d:3h:8m:2s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac553199308
From: sipp <sip:1234567890@172.16.4.41>;tag=1c552885972
To: sut <sip:14040000022@172.16.4.77>
Call-ID: 5528631081032015382@172.16.4.77
CSeq: 1 INVITE
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

5. SIP 300 Redirect from NexOSS-FC to SBC

```
10d:3h:8m:2s SIP/2.0 300 Redirect
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac553199308
From: sipp <sip:1234567890@172.16.4.41>;tag=1c552885972
To: sut <sip:14040000022@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.880d
Call-ID: 5528631081032015382@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:14040000022@172.16.4.47>
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

6. SIP ACK from SBC to NexOSS-FC

```
10d:3h:8m:2s ACK sip:14040000022@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac553199308
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c552885972
To: sut <sip:14040000022@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.880d
Call-ID: 5528631081032015382@172.16.4.77
CSeq: 1 ACK
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

7. SIP INVITE from SBC to Destination

P-Source-Device is not included in INVITE message.

```
10d:3h:8m:2s INVITE sip:14040000022@172.16.4.47 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac618660440
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c618504784
To: <sip:14040000022@172.16.4.47>
Call-ID: 6184808001032015382@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Subject: Performance Test
Content-Type: application/sdp
Content-Length: 167

v=0
o=user1 618368408 618368312 IN IP4 172.16.4.77
s=-
c=IN IP4 172.16.4.77
t=0 0
m=audio 6020 RTP/AVP 8
```

```
c=IN IP4 172.16.4.77
a=ptime:20
a=rtpmap:8 PCMA/8000
```

8. SIP 408 Request Timeout from SBC to Source

```
10d:3h:8m:3s (      lgr_flow)(      1764)  ---- Outgoing SIP Message to
172.16.4.41:5060 from SIPInterface #1 UdpTransportObject(#1) ----

10d:3h:8m:3s SIP/2.0 408 Request Timeout
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-2690-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=2690SIPpTag001
To: sut <sip:14040000022@172.16.4.77>;tag=1c549823236
Call-ID: 1-2690@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

9. SIP ACK from Source to SBC

```
10d:3h:8m:3s (      lgr_flow)(      1776)  ---- Incoming SIP Message from
172.16.4.41:5060 to SIPInterface #1 UdpTransportObject(#1) ----

10d:3h:8m:3s ACK sip:14040000022@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-2690-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=2690SIPpTag001
To: sut <sip:14040000022@172.16.4.77>;tag=1c549823236
Call-ID: 1-2690@172.16.4.41
CSeq: 1 ACK
Contact: <sip:sipp@172.16.4.41:5060;transport=UDP>
Max-Forwards: 70
Subject: Performance Test
Content-Length: 0
```

5.3 No Fraud Detected - SBC Routes Call - 404 Not Found

The following SBC log documents the SIP messages for the test case when no fraud is detected. NexOSS-FC will return a SIP 404 message to the SBC. The SBC should route the call to the next destination in its local routing policy.

1. SIP INVITE from Source to SBC.

```
19d:2h:28m:37s INVITE sip:14040000027@172.16.4.77:5060 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-9135-1-0
From: sipp <sip:1234567890@172.16.4.41:5060>;tag=9135SIPpTag001
To: sut <sip:14040000027@172.16.4.77:5060>
Call-ID: 1-9135@172.16.4.41
CSeq: 1 INVITE
Contact: sip:1234567890@172.16.4.41:5060
Max-Forwards: 70
Subject: Performance Test
Content-Type: application/sdp
Content-Length:   133

v=0
o=user1 53655765 2353687637 IN IP4 172.16.4.41
s=-
c=IN IP4 172.16.4.41
t=0 0
m=audio 6000 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

2. SIP 100 Trying from SBC to Source

```
19d:2h:28m:37s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-9135-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=9135SIPpTag001
To: sut <sip:14040000027@172.16.4.77>;tag=1c513360168
Call-ID: 1-9135@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

3. SIP INVITE from SBC to NexOSS-FC

P-Source-Device header has been added to SIP INVITE

```
19d:2h:28m:37s INVITE sip:14040000027@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac516092414
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c515905990
To: sut <sip:14040000027@172.16.4.77>
Call-ID: 5158810141932015228 37@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Subject: Performance Test
Content-Type: application/sdp
Content-Length: 133
P-Source-Device: 172.16.4.41:5060

v=0
o=user1 515777518 515777422 IN IP4 172.16.4.77
s=-
c=IN IP4 172.16.4.77
t=0 0
m=audio 6010 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

4. SIP 100 Trying from NexOSS-FC to SBC

```
19d:2h:28m:37s SIP/2.0 100 Trying
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac516092414
From: sipp <sip:1234567890@172.16.4.41>;tag=1c515905990
To: sut <sip:14040000027@172.16.4.77>
Call-ID: 5158810141932015228 37@172.16.4.77
CSeq: 1 INVITE
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

5. SIP 404 Not Found from NexOSS-FC to SBC

```
19d:2h:28m:37s SIP/2.0 404 Route Not Found
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac516092414
From: sipp <sip:1234567890@172.16.4.41>;tag=1c515905990
To: sut <sip:14040000027@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.a7da
Call-ID: 5158810141932015228 37@172.16.4.77
CSeq: 1 INVITE
Server: OpenSIPS (1.8.2-notls (x86_64/linux))
Content-Length: 0
```

6. SIP ACK from SBC to NexOSS-FC

```
19d:2h:28m:37s ACK sip:14040000027@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac516092414
Max-Forwards: 10
```

```
From: sipp <sip:1234567890@172.16.4.41>;tag=1c515905990
To: sut <sip:14040000027@172.16.4.77>;tag=7cb6f5a1787856c92fdb341051634cd0.a7da
Call-ID: 5158810141932015228 37@172.16.4.77
CSeq: 1 ACK
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

7. SIP INVITE from SBC to Destination

P-Source-Device is not included in INVITE message.

```
19d:2h:28m:37s INVITE sip:14040000027@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac580612558
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>
Call-ID: 5804194701932015228 37@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Subject: Performance Test
Content-Type: application/sdp
Content-Length: 167

v=0
o=user1 580311606 580311518 IN IP4 172.16.4.77
s=-
c=IN IP4 172.16.4.77
t=0 0
m=audio 6000 RTP/AVP 8
c=IN IP4 172.16.4.77
a=ptime:20
a=rtpmap:8 PCMA/8000
```

8. SIP 180 Ringing from Destination to SBC

```
19d:2h:28m:37s SIP/2.0 180 Ringing
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac580612558
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>;tag=5876SIPpTag012914244
Call-ID: 5804194701932015228 37@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:172.16.4.56:5060;transport=UDP>
Content-Length: 0
```

9. SIP 180 Ringing from SBC to Source

```
19d:2h:28m:37s SIP/2.0 180 Ringing
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-9135-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=9135SIPpTag001
To: sut <sip:14040000027@172.16.4.77>;tag=1c513360168
Call-ID: 1-9135@172.16.4.41
CSeq: 1 INVITE
Contact: <sip:172.16.4.77:5060>
Server: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

10. SIP 200 OK from Destination to SBC

```
19d:2h:28m:37s SIP/2.0 200 OK
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac580612558
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>;tag=5876SIPpTag012914244
```

```
Call-ID: 580419470193201522837@172.16.4.77
CSeq: 1 INVITE
Contact: <sip:172.16.4.56:5060;transport=UDP>
Content-Type: application/sdp
Content-Length:   133

v=0
o=user1 53655765 2353687637 IN IP4 172.16.4.56
s=-
c=IN IP4 172.16.4.56
t=0 0
m=audio 6000 RTP/AVP 8
a=rtpmap:8 PCMA/8000
```

11. SIP ACK from SBC to Destination

```
19d:2h:28m:37s ACK sip:172.16.4.56:5060 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac706049854
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>;tag=5876SIPpTag012914244
Call-ID: 580419470193201522837@172.16.4.77
CSeq: 1 ACK
Contact: <sip:1234567890@172.16.4.77:5070>
User-Agent: Mediant SW/v.6.80A.216.008
Content-Length: 0
```

12. SIP BYE from SBC to Destination

```
19d:2h:28m:37s BYE sip:172.16.4.56:5060 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac706526182
Max-Forwards: 10
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>;tag=5876SIPpTag012914244
Call-ID: 580419470193201522837@172.16.4.77
CSeq: 2 BYE
User-Agent: Mediant SW/v.6.80A.216.008
Reason: SIP ;cause=488 ;text="488 Not Acceptable Here"
Content-Length: 0
```

13. SIP 488 Not Acceptable from SBC to Source

```
19d:2h:28m:37s SIP/2.0 488 Not Acceptable Here
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-9135-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=9135SIPpTag001
To: sut <sip:14040000027@172.16.4.77>;tag=1c513360168
Call-ID: 1-9135@172.16.4.41
CSeq: 1 INVITE
Server: Mediant SW/v.6.80A.216.008
Reason: SIP ;cause=488 ;text="488 Not Acceptable Here"
Content-Length: 0
```

14. SIP ACK from Source to SBC

```
19d:2h:28m:37s ACK sip:14040000027@172.16.4.77 SIP/2.0
Via: SIP/2.0/UDP 172.16.4.41:5060;branch=z9hG4bK-9135-1-0
From: sipp <sip:1234567890@172.16.4.41>;tag=9135SIPpTag001
To: sut <sip:14040000027@172.16.4.77>;tag=1c513360168
Call-ID: 1-9135@172.16.4.41
CSeq: 1 ACK
Contact: <sip:sipp@172.16.4.41:5060;transport=UDP>
Max-Forwards: 70
Subject: Performance Test
```

```
Content-Length: 0
```

15. SIP 200 OK from Destination to SBC

```
19d:2h:28m:37s SIP/2.0 200 OK
Via: SIP/2.0/UDP 172.16.4.77:5070;branch=z9hG4bKac706526182
From: sipp <sip:1234567890@172.16.4.41>;tag=1c580444678
To: sut <sip:14040000027@172.16.4.77>;tag=5876SIPpTag012914244
Call-ID: 5804194701932015228 37@172.16.4.77
CSeq: 2 BYE
Contact: <sip:172.16.4.56:5060;transport=UDP>
Content-Length: 0
```