

VTR 및 VTRI의 통화 설정 문제 해결

목차

[소개](#)

[배경 정보](#)

[사전 요구 사항](#)

[요구 사항](#)

[사용되는 구성 요소](#)

[VTR\(I\) 툴 사용](#)

[CLI에서 VTR\(I\) 툴 실행](#)

[웹 GUI에서 VTR\(I\) 툴 실행](#)

[VTR\(I\) 출력 분석](#)

[매개변수 또는 SIP 초대](#)

[발신자 정보](#)

[발신 통화 정보](#)

[원래 번역 결과](#)

[종료 통화 정보](#)

[치료 정보](#)

[타임스탬프](#)

[결과](#)

[네트워크 토폴로지 및 통화 흐름](#)

[통화 시나리오](#)

[시나리오 1: 통화 성공](#)

[시나리오 2: 선택적 통화 수락 서비스에 의해 거부된 통화](#)

[시나리오 3: 할당되지 않은 번호로 통화](#)

소개

이 문서에서는 AS(Application Server)에서 VTR(Verify Translation and Routing) 툴을 사용하여 일반적인 통화 설정 문제를 해결하는 방법에 대해 설명합니다.

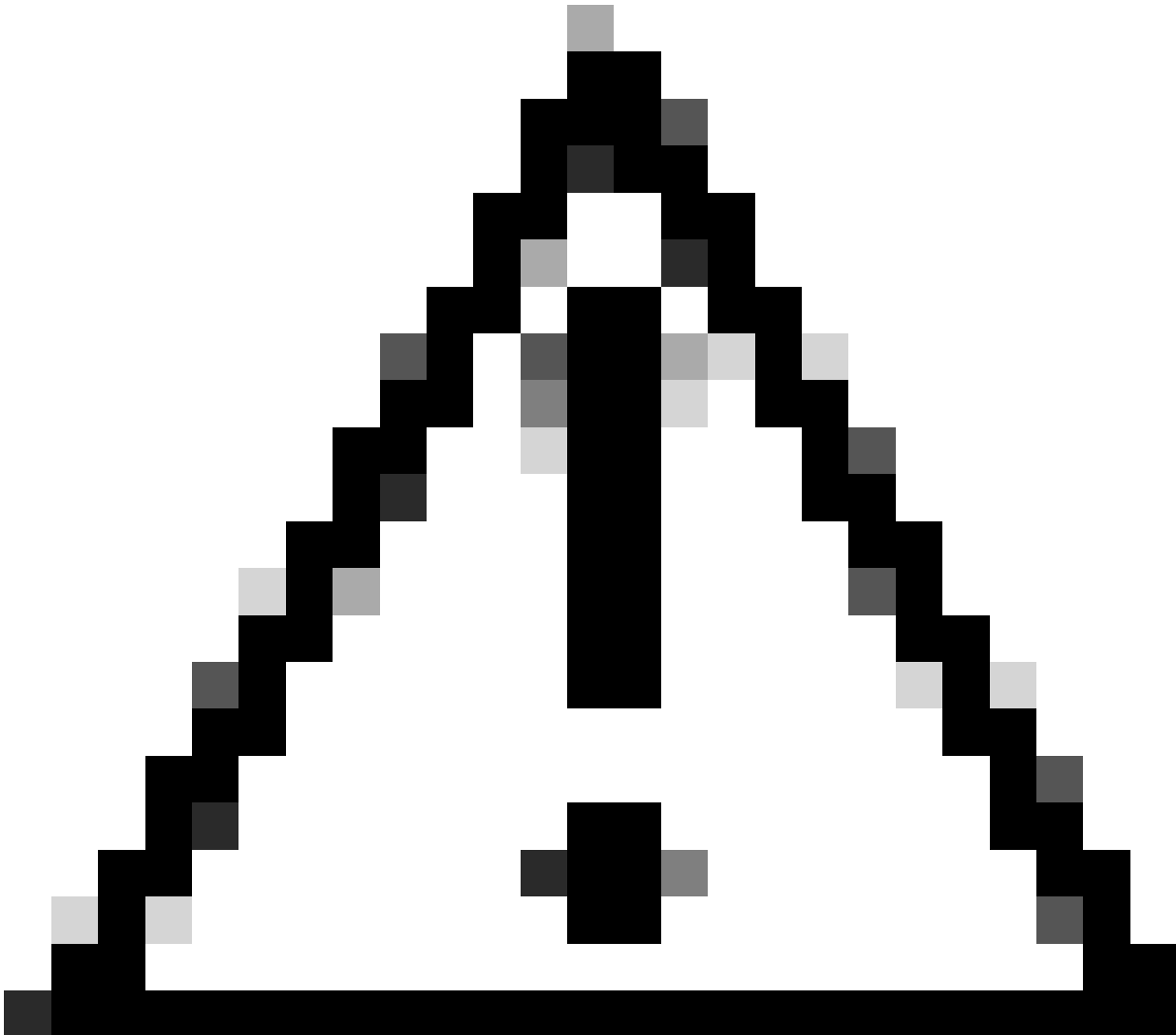
.

배경 정보

BroadWorks Application Server에는 통화 설정 문제를 해결하는 데 사용할 수 있는 두 가지 내장 도구가 있습니다. VTR 및 VTRI(변환 및 라우팅 초대 확인) 이 두 가지 툴의 목적은 동일하며, 차이점은 명령 입력에 있습니다.

- VTR은 발신자 세부사항(예: 사용자 ID 또는 전화 번호)과 대상 번호를 입력으로 사용합니다.

- VTRI는 SIP INVITE 메시지를 입력으로 사용합니다.
-



주의: VTR 및 VTRI 명령도 NS(Network Server)에서 사용할 수 있지만 출력 구조가 AS와 다릅니다. 이 문서에서는 AS VTR(I)에 중점을 두며 NS VTR(I)을 사용하여 작업하는 동안 참조로 사용할 수 없습니다.

AS VTR에 대한 전체 명령 참조는 Application [Server VTR Administration Guide](#)에서 확인할 수 있습니다.

사전 요구 사항

요구 사항

Cisco에서는 다음 사항에 대해 알고 있는 것이 좋습니다.

- SIP(세션 시작 프로토콜) 신호
- 사용 가능한 서비스 및 해당 컨피그레이션과 함께 애플리케이션 서버의 통화 처리 메커니즘

사용되는 구성 요소

이 문서의 정보는 BroadWorks AS 버전 R24를 기반으로 합니다. 그러나 다른 소프트웨어 버전의 동작은 유사합니다.

이 문서의 정보는 특정 랩 환경의 디바이스를 토대로 작성되었습니다. 이 문서에 사용된 모든 디바이스는 초기화된(기본) 컨피그레이션으로 시작되었습니다. 현재 네트워크가 작동 중인 경우 모든 명령의 잠재적인 영향을 미리 숙지하시기 바랍니다.

VTR(I) 툴 사용

VTR 분석은 CLI(Command Line Interface) 및 웹 인터페이스에서 모두 트리거할 수 있습니다.

CLI에서 VTR(I) 툴 실행

웹 GUI에서 VTR을 실행하려면 다음 단계를 수행합니다.

1단계. bwadmin 자격 증명으로 BroadWorks CLI에 로그인합니다.

2단계. BroadWorks CLI를 시작하고 AS_CLI/ASDiagnostic/Diag로 이동합니다.

```
AS_CLI> cd ASDiagnostic/Diag
```

3단계. VTRI를 사용하려면 vtri 명령을 실행한 다음 SIP INVITE 및 새 줄의 기간 문자를 실행합니다. 예를 들면 다음과 같습니다.

```
AS_CLI/ASDiagnostic/Diag> vtri
Enter a SIP message. When complete, enter a single period (.) on a line to start verifying the translation.
INVITE sip:2012@mleus.lab SIP/2.0
Via: SIP/2.0/UDP 10.61.205.219:58300;rport;branch=z9hG4bKPjgINPvPUvoBT57iT0BPsgCfEqE5GX1aj7
Max-Forwards: 70
From: "Marek Leus"

;tag=6fU.V1LrWc6WI3JU8jWKS.25yeoWEhpc
To: sip:2012@mleus.lab
Contact: "Marek Leus"
```

Call-ID: dTUVBWON9UjmftpGC0oJzhLfbajBm11C
CSeq: 6492 INVITE
Route:

Allow: PRACK, INVITE, ACK, BYE, CANCEL, UPDATE, INFO, SUBSCRIBE, NOTIFY, REFER, MESSAGE, OPTIONS
Supported: replaces, 100rel, norefersub
User-Agent: Telephone 1.6
Content-Type: application/sdp
Content-Length: 480

```
v=0
o=- 3883737105 3883737105 IN IP4 10.61.205.219
s=pjmedia
b=AS:117
t=0 0
a=X-nat:0
m=audio 4012 RTP/AVP 96 9 8 0 101 102
c=IN IP4 10.61.205.219
b=TIAS:96000
a=rtcp:4013 IN IP4 10.61.205.219
a=sendrecv
a=rtpmap:96 opus/48000/2
a=fmtp:96 useinbandfec=1
a=rtpmap:9 G722/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:0 PCMU/8000
a=rtpmap:101 telephone-event/48000
a=fmtp:101 0-16
a=rtpmap:102 telephone-event/8000
a=fmtp:102 0-16
a=ssrc:2039250127 cname:43ec7f3b5b951d53
.
```

4단계. VTR을 사용하려면 vtr 명령을 실행한 다음 발신자와 대상의 세부 정보를 실행합니다. 예를 들면 다음과 같습니다.

Command reference:

AS_CLI/ASDiagnostic/Diag> h vtr

This command is used to perform a test call and see the routing results. Please be careful when performing test calls, it may have an impact on existing real calls or cause user migration.

Parameters description:

origType : The type of origination used to trigger the VTR request.

linePort : The lineport of the originating user.
bwphone : The originating BroadWorks user phone number.
pstnphone : The originating PSTN user phone number.
userId : The originating BroadWorks user Id.
url : The originating url.
destination: The called user, number or URI.
option : Additional vtr options.
contact : The contact URL to use for the test call.
diversion : The diversion URL to use for the test call.

=====
vtr

, Choice = {linePort, bwphone, pstnphone, userId, url}

, String {1 to 80 characters}

, String {1 to 17 characters}

, String {1 to 17 characters}

, String {2 to 161 characters}

, String {2 to 161 characters}

[, String {1 to 161 characters}

, Multiple Choice = {contact, diversion}], String {1 to 80 characters}, String {1 to 80 characters}

Usage example:

AS_CLI/ASDiagnostic/Diag> vtr userId ngnuserB1@mleus.lab 2012

웹 GUI에서 VTR(I) 툴 실행

웹 GUI에서 VTR을 실행하려면 다음 단계를 수행합니다.

1단계. https://<AS_FQDN>/Login 페이지로 이동하여 AS 웹 인터페이스에 로그인합니다.

2단계. 시스템 > 유틸리티 > 변환 및 공정순서 검증으로 이동합니다.

3단계. VTRI를 사용하려면 SIP Message(SIP 메시지) 라디오 버튼을 클릭하고 입력 필드에 SIP INVITE 메시지를 붙여 넣습니다. 그런 다음 Execute VTR request(VTR 요청 실행) 링크를 클릭합니다.

Verify Translation and Routing

Run test calls and gather information about the translations, routing, and services for a given call.

OK

Select VTR Type: ☐ Parameters ☒ SIP Message

Enter a SIP message to be used:

INVITE sip:2012@mleus.lab SIP/2.0
Via: SIP/2.0/UDP
10.61.205.219:58300;rport;branch=z9hG4bKPjgINPvPUvoBT57ITOBPsgC#EqE5G
X1aj7
Max-Forwards: 70
From: "Marek Leus"
<sip:5403362011@mleus.lab>;tag=6fU.VILrWc6Wt3JU8/WKS.25yecWEhpc
To: sip:2012@mleus.lab
Contact: "Marek Leus" <sip:5403362011@10.61.205.219:58300.ob>
Call-ID: dTUV8WON9UjmfGCOoJzhLfaj8m11C

Execute VTR request.

VTR Result:

OK

4단계. VTR을 사용하려면 매개변수 라디오 버튼을 클릭하고 모든 필수 필드를 입력합니다. 그런 다음 Execute VTR request(VTR 요청 실행) 링크를 클릭합니다.

Verify Translation and Routing

Run test calls and gather information about the translations, routing, and services for a given call.

OK

Select VTR
Type: ☒ Parameters ☐ SIP Message

* Origination
Type:

* Origination:

* Destination:

Contact:

Diversion:

[Execute VTR request.](#)

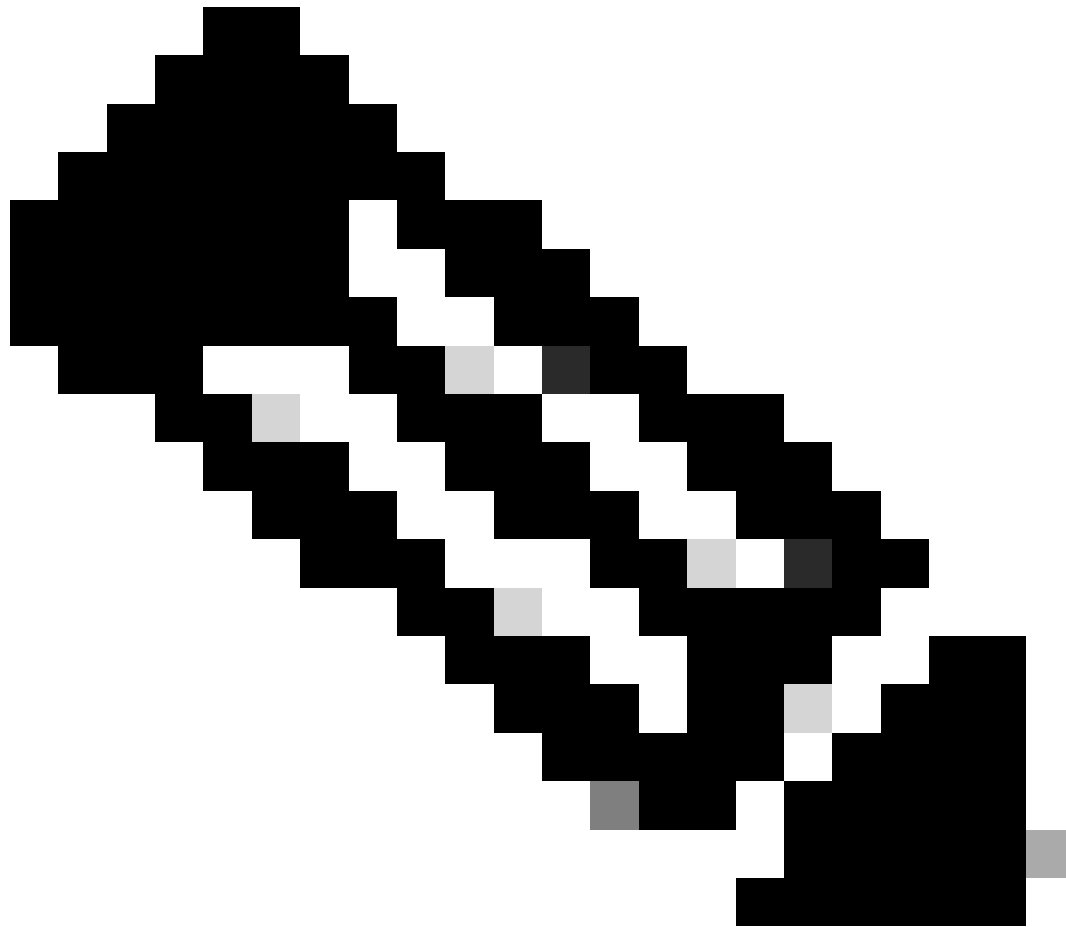
VTR Result:

OK

VTR(I) 출력 분석

VTR 및 VTRI 결과의 형식은 유사합니다. 8개의 섹션으로 구성되어 있습니다.

1. 매개변수 또는 SIP INVITE(VTR에만 있음) 실제 SIP 메시지에서 작동하므로 VTRI에서는 필요하지 않습니다.
2. 발신자 정보.
3. 발신 통화 정보.
4. 변환 결과를 시작하는 중입니다.
5. 통화 정보를 종료합니다.
6. 치료 정보
7. 타임스탬프입니다.
8. 결과.



참고: 이 문서의 모든 VTR 출력은 달리 언급되지 않는 한 `vtr userId <user_id> <destination_number>` 명령 출력을 기반으로 합니다.

매개변수 또는 SIP 초대

VTR 결과의 첫 번째 부분은 SIP INVITE 또는 통화를 시뮬레이션하는 데 사용되는 매개변수입니다. SIP INVITE를 명시적으로 제공하는 경우(즉, VTRI를 사용하는 경우) 이 섹션이 표시되지 않습니다.

SIP INVITE는 발신지가 URL 또는 라인/포트로 설정된 경우 생성됩니다. 예를 들면 다음과 같습니다.

```
AS_CLI/ASDiagnostic/Diag> vtr linePort 5403362011@mleus.lab 2012
VTR Result:
-----
Using following SIP INVITE to run VTRI command with Lineport
```

```
-----  
INVITE sip:2012@10.48.93.126 SIP/2.0  
Via:SIP/2.0/UDP 127.0.0.1:5061;branch=vtr-unique-via-branch-26  
From:"VTR Calling Name"
```

```
      ;tag=26  
To:"VTR Called Name"
```

```
Call-ID:26  
CSeq:26 INVITE  
Contact:
```

```
Allow:ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REGISTER,UPDATE  
Content-Type:application/sdp  
Content-Length:410
```

```
v=0  
o=- 123 123 IN IP4 127.0.0.1  
s=-  
c=IN IP4 127.0.0.1  
t=0 0  
m=audio 16428 RTP/AVP 0 2 4 8 18 96 97 98 100 101  
a=rtpmap:0 PCMU/8000  
a=rtpmap:2 G726-32/8000  
a=rtpmap:4 G723/8000  
a=rtpmap:8 PCMA/8000  
a=rtpmap:18 G729a/8000  
a=rtpmap:96 G726-40/8000  
a=rtpmap:97 G726-24/8000  
a=rtpmap:98 G726-16/8000  
a=rtpmap:100 NSE/8000  
a=rtpmap:101 telephone-event/8000  
a=fmtp:101 0-15  
a=ptime:20  
a=sendrecv
```

발신지가 사용자 ID 또는 전화기(bwphone 및 pstnphone 모두)로 설정된 경우 매개변수가 표시됩니다. 예를 들면 다음과 같습니다.

```
AS_CLI/ASDiagnostic/Diag> vtr userId ngnuserB1@mleus.lab 2012  
VTR Result:
```

```
-----  
Using following parameters to run short form VTR command
```

```
-----
VtrOriginationEvent
vtrKey          16
origUserId      ngnuserB1@mleus.lab
origUserUid     110439218
requestURI equivalent 2012@10.48.93.126:5060
dialedDigits (initial) 2012
deviceEndpoint  5403362011@mleus.lab
```

발신자 정보

이 섹션에는 발신자(발신자)에 대한 정보가 표시됩니다. 발신자가 로컬 BroadWorks 사용자인 경우 사용자에게 대한 자세한 정보가 표시됩니다. 예를 들면 다음과 같습니다.

```
=====
===== ORIGINATOR INFO =====
=====
[Orig-Id] VTR Short form trigger.
[Orig-Id] No Endpoint.
[Orig-Id] Originating user type: BroadWorks
[Orig-Id] User Info
[Orig-Id] User Id = ngnuserB1@mleus.lab
[Orig-Id] User Uid = 110439218
[Orig-Id] Group Id = ngngroupB1
[Orig-Id] Service Provider Id = ngnentB1
[Orig-Id] Reseller Id = null
[Orig-Id] ASCII First Name = Marek
[Orig-Id] ASCII Last Name = Leus
[Orig-Id] Unicode First Name = Marek
[Orig-Id] Unicode Last Name = Leus
[Orig-Id] Country Code = 1
[Orig-Id] User Type = User
[Orig-Id] Trunk User Type = BroadWorks Regular User
[Orig-Id] (0) Address type = main
[Orig-Id] (0) dn = +15403362011
[Orig-Id] (0) extension = 2011
[Orig-Id] activeAsComponentID = [vnf=null,vnfc=1]
[Orig-Id] beingRemoved = false
[Orig-Id] configurable CLID = 5403362010
[Orig-Id] synchronizationASRSentToNS = false
```

발신 통화 정보

이 섹션에는 통화의 발신자 측 이벤트 진행이 순서대로 나열됩니다. 발신자가 Cisco BroadWorks 사용자인 경우 할당된 서비스가 실행되는 곳입니다. 예를 들면 다음과 같습니다.

```
=====
===== ORIGINATING CALL INFO =====
```

```

=====
[Orig/CallServiceBus]    CallId is callhalf-60507:0
[Orig/CallServiceBus]    === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus]    TranslationServiceOrigInstance has CONSUMED the event.
[Orig/CallServiceBus]    CallId is callhalf-60507:0
[Orig/CallServiceBus]    === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus]    Resuming event processing after TranslationServiceOrigInstance
[Orig/CallServiceBus]    SecurityClassificationServiceInstance has processed the event...continue
(...)
# Output omitted for clarity
(...)
[Orig/CallServiceBus]    EmergencyCallTimerServiceInstance has processed the event...continue
[Orig/ReleaseWithCauseHandler]    Post Processing RWC for Call.

```

원래 번역 결과

Cisco BroadWorks Network Server에서 요청한 번역에 대한 정보는 이 섹션에 나와 있습니다. 네트워크 변환이 필요한 경우 사용된 다이얼 플랜 정책에 대한 정보가 표시됩니다. 이 용도로 교환된 SIP 메시지도 표시됩니다. 예를 들면 다음과 같습니다.

```

=====
=====  ORIGINATING TRANSLATION RESULT  =====
=====
[Orig-Xlation/DialPlanPolicy]    --Dial Plan Policy Information--
[Orig-Xlation/DialPlanPolicy]    requiresAccessCodeForPublicCalls = false
[Orig-Xlation/DialPlanPolicy]    allowE164PublicCalls             = false
[Orig-Xlation/DialPlanPolicy]    privateDigitMap                  =
[Orig-Xlation/DialPlanPolicy]    publicDigitMap                   = ([2-9]11|[0-1][2-9]11|0[#T]|00|01[2
[Orig-Xlation/DialPlanPolicy]    preferE164FormatForCallbackSvcs = false

[Orig-Xlation/NetworkUsagePolicy] Network Usage Policy is - do not force all calls to network -
[Orig-Xlation/NetworkServerINVITE] Sending INVITE event to network server for Translation Service Or
[Orig-Xlation/NetworkServerINVITE] Endpoint Id: callhalf-60487:0
    udp 1128 SIP Bytes OUT to 10.48.93.128:5060
    INVITE sip:2014@10.48.93.128;user=phone;transport=udp SIP/2.0
    Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.48.93.128V5060-0-960997887-1152157
    From:"Marek Leus"

    ;tag=1152157837-1674811757564-
To:

Call-ID: BW1029175642701231892598132@10.48.93.126
CSeq: 960997887 INVITE
Contact:

```

P-Asserted-Identity:"Marek Leus"

Privacy:none
X-BroadWorks-Correlation-Info:be8fde53-9ba5-4fc4-a788-ee426ed1fe90
Allow:ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY
Supported:
Max-Forwards:10
Content-Type:application/sdp
Content-Length:410

v=0
o=- 123 123 IN IP4 127.0.0.1
s=-
c=IN IP4 127.0.0.1
t=0 0
m=audio 16428 RTP/AVP 0 2 4 8 18 96 97 98 100 101
a=rtpmap:0 PCMU/8000
a=rtpmap:2 G726-32/8000
a=rtpmap:4 G723/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729a/8000
a=rtpmap:96 G726-40/8000
a=rtpmap:97 G726-24/8000
a=rtpmap:98 G726-16/8000
a=rtpmap:100 NSE/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=ptime:20
a=sendrecv

[Orig-Xlation/NS-RESPONSE] Got Network Server response for Translation Service Originating Side client
udp 394 SIP Bytes IN from 10.48.93.128:49109
SIP/2.0 404 Not found
Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.48.93.128V5060-0-960997887-1152157
From:"Marek Leus"

;tag=1152157837-1674811757564-
To:

;tag=1006595920-1674811749882
Call-ID:BW1029175642701231892598132@10.48.93.126
CSeq:960997887 INVITE
Content-Length:0

[Orig-Xlation/TranslationManager]	Translation Client: Translation Service Originating Side call Id i
[Orig-Xlation/TranslationManager]	=== TranslationResult ===
[Orig-Xlation/TranslationManager]	callType Network
[Orig-Xlation/TranslationManager]	address 2014
[Orig-Xlation/TranslationManager]	addressType main
[Orig-Xlation/TranslationManager]	isServiceCode false
[Orig-Xlation/TranslationManager]	sc8Translated false
[Orig-Xlation/TranslationManager]	sc100Translated false
[Orig-Xlation/TranslationManager]	oacTranslated false
[Orig-Xlation/TranslationManager]	carrierPrefixTranslated false
[Orig-Xlation/TranslationManager]	intraSP false

```
[Orig-Xlation/TranslationManager] alias false
[Orig-Xlation/TranslationManager] preExtEmergencyRtgAK null
[Orig-Xlation/TranslationManager] === Carrier Info ===
[Orig-Xlation/TranslationManager] ;cse1=noind
```

종료 통화 정보

통화에 유효한 대상이 있으면 해당 ID 및 종료 서비스 버스의 이벤트에 대한 정보가 표시됩니다. 발신 통화 정보 섹션과 유사하게, 목적지 사용자의 할당된 서비스가 실행되는 곳입니다. 또한 대상으로 전송된 SIP INVITE도 표시됩니다. 예를 들면 다음과 같습니다.

```
=====
===== TERMINATING CALL INFO =====
=====
[Term/CallManagerServiceBus] CallManagerId is callhalf-60459
[Term/CallManagerServiceBus] === Routing TerminationEvent on the Call Manager bus ===

[Term/Term-Id] Terminating user type: BroadWorks
[Term/Term-Id] User Info
[Term/Term-Id] User Id = ngnuserB2@mleus.lab
[Term/Term-Id] User Uid = 156778964
[Term/Term-Id] Group Id = ngngroupB1
[Term/Term-Id] Service Provider Id = ngntentB1
[Term/Term-Id] Reseller Id = null
[Term/Term-Id] ASCII First Name = John
[Term/Term-Id] ASCII Last Name = Doe
[Term/Term-Id] Unicode First Name = John
[Term/Term-Id] Unicode Last Name = Doe
[Term/Term-Id] Country Code = 1
[Term/Term-Id] User Type = User
[Term/Term-Id] Trunk User Type = BroadWorks Regular User
[Term/Term-Id] (0) Address type = main
[Term/Term-Id] (0) dn = +15403362012
[Term/Term-Id] (0) extension = 2012
[Term/Term-Id] activeAsComponentID = [vnf=null,vnfc=1]
[Term/Term-Id] beingRemoved = false
[Term/Term-Id] configurable CLID = 5403362010
[Term/Term-Id] synchronizationASRSentToNS = false

[Term/CallServiceBus] CallId is callhalf-60459:0
[Term/CallServiceBus] === Routing InvitationEvent on the Terminating Call bus ===

[Term/CallServiceBus] TranslationServiceTermInstance has processed the event...continue
```

[Term/CallServiceBus] NumberPortabilityQueryServiceTermInstance has processed the event...continue
(...)
Output omitted for clarity
(...)
[Term/CallManagerServiceBus] RingTimeoutServiceInstance has processed the event...continue
[Term/SipINVITE] Outgoing resulting INVITE for Endpoint Id: callhalf-60459:0
udp 1195 SIP Bytes OUT to 10.61.71.93:62388
INVITE sip:5403362012@10.61.71.93:62388;transport=UDP;rinstance=c71abb15b3ff5d4a SIP/2.0
Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.61.71.93V62388-0-960978525-1694279
From:"Marek Leus"

;tag=1694279432-1674811718841-
To:"John Doe"

Call-ID:BW102838841270123-1135433227@10.48.93.126
CSeq:960978525 INVITE
Contact:

Supported:100rel
Allow:ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY,UPDATE
Call-Info:

;appearance-index=1
Recv-Info:x-broadworks-client-session-info
Accept:application/media_control+xml,application/sdp,multipart/mixed
Max-Forwards:10
Content-Type:application/sdp
Content-Length:410

v=0
o=- 123 123 IN IP4 127.0.0.1
s=-
c=IN IP4 127.0.0.1
t=0 0
m=audio 16428 RTP/AVP 0 2 4 8 18 96 97 98 100 101
a=rtpmap:0 PCMU/8000
a=rtpmap:2 G726-32/8000
a=rtpmap:4 G723/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729a/8000
a=rtpmap:96 G726-40/8000
a=rtpmap:97 G726-24/8000
a=rtpmap:98 G726-16/8000
a=rtpmap:100 NSE/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=ptime:20
a=sendrecv

치료 정보

이 섹션은 실패한 통화에 대해서만 표시됩니다. 통화 실패에 대한 자세한 이유를 제공합니다. 또한 해당 이유로 인해 통화가 실패한 경우 미디어 서버에서 어떤 알림/신호음이 재생되는지도 나열합니다. 예를 들면 다음과 같습니다.

```
=====
=====  TREATMENT INFORMATION  =====
=====
[Treatment/TreatmentsService]   Treatment service processing RWC. Release Cause is FORBIDDEN
[Treatment/TreatmentsService]   defaultAnnouncement isTrtCallFailure.wav
[Treatment/TreatmentsService]   defaultTone is reorder-pcmu.wav

[Treatment/TreatmentsService]   Configurable Treatment NOT used but specific audio treatment files have
[Treatment/TreatmentsService]   audioAnnouncement(s):
[Treatment/TreatmentsService]   https://10.48.93.126/media/en/TrtSelectCallReject.wav
[Treatment/TreatmentsService]   https://10.48.93.126/media/en/silence10s.wav
[Treatment/TreatmentsService]   https://10.48.93.126/media/en/TrtSelectCallReject.wav
```

타임스탬프

통화 타임스탬프는 VTRI의 이벤트를 XSLogs와 상호 연결하는 데 사용할 수 있습니다.

결과

테스트 호출의 최종 결과인 가능한 값은 다음과 같습니다.

- Allowed(허용됨) - 통화를 원격 상대방에게 성공적으로 확장할 수 있습니다. 발신 INVITE는 종료 통화 정보 섹션에 표시됩니다.
- Blocked(차단됨) - 일부 정책 또는 비정상적인 상태로 인해 통화 설정이 차단되었습니다. 사유는 발생 측 또는 종료 측(사유에 따라 다름)에 있을 수 있습니다.
- Redirected(리디렉션) - 조건 없이 통화가 리디렉션되었습니다. 리디렉션 대상이 식별되어 보고서에 표시됩니다.
- Timeout - 문제가 발생하여 테스트 호출이 올바르게 종료되지 않았으며 10초 내부 시간 제한에 도달했습니다. 당면한 정보를 사용할 수 있지만 최종 결과는 표시되지 않습니다.
- 미디어 - 미디어 구성 요소는 특정 알림을 재생하거나 숫자를 수집하기 위해 내부적으로 시작

되었습니다(일반적으로 IVR[Interactive Voice Response]). 이 경우 테스트 통화가 중지되지만 보고서에는 이 시점까지의 이벤트가 표시됩니다.

네트워크 토폴로지 및 통화 흐름

이 문서에서는 간소화를 위해 기본 통화 시나리오를 사용합니다.

- 스마트폰 애플리케이션은 AS에 직접 등록됩니다.
- 모든 사용자가 같은 그룹에 있습니다.
- 통화 착신 전환 또는 리디렉션이 사용되지 않습니다.

통화 시나리오

이 문서에서는 내선 번호가 2011인 사용자가 순서대로 전화를 거는 세 가지 시나리오를 다룹니다.

1. 확장 2012 - 등록된 디바이스에 할당됩니다.
2. 내선 번호 2012 - 등록된 디바이스에 할당되었지만 선택적 통화 수락 서비스가 2011년부터 통화를 거부하도록 구성됨 이 화면 캡처에 표시된 대로,

Selective Call Acceptance

Selective Call Acceptance allows you to receive only calls that meet your pre-defined criteria. The criteria for each Selective Acceptance entry can be a list of up to 12 phone numbers or digit patterns, specified called number(s), a specified time schedule and a specified holiday schedule. All criteria for an entry must be true for you to receive the call.

OKApplyAddCancel					
Active	Description	Accept	Calls from	Calls to	Edit
☒	Reject_2011	No	5403362011	Any Number	Edit
OKApplyAddCancel					

3. 내선 번호 2014 - 어떤 사용자에게도 할당되지 않음

시나리오 1: 통화 성공

이 시나리오에서는 한 로컬 사용자가 다른 로컬 사용자에게 내선 번호로 전화를 겁니다. 이 통화에 대한 자세한 내용을 보려면 VTR 출력을 살펴보도록 하겠습니다.

```
AS_CLI/ASDiagnostic/Diag> vtr userId ngnuserB1@mleus.lab 2012
VTR Result:
```

```
-----
Using following parameters to run short form VTR command
-----
```

```
VtrOriginationEvent
vtrKey                12
origUserId             ngnuserB1@mleus.lab
origUserId             110439218
requestURI equivalent  2012@10.48.93.126:5060
dialedDigits (initial) 2012
deviceEndpoint         5403362011@mleus.lab
```

VTR 결과의 첫 번째 섹션에서는 AS가 vtr 명령의 매개변수를 SIP URL에 매핑하는 방법을 확인할

수 있습니다.

- 발신자: 5403362011@mleus.lab
- 대상: 2012@10.48.93.126:5060

```
=====
===== ORIGINATOR INFO =====
=====
[Orig-Id] VTR Short form trigger.
[Orig-Id] No Endpoint.
[Orig-Id] Originating user type: BroadWorks
[Orig-Id] User Info
[Orig-Id] User Id = ngnuserB1@mleus.lab
[Orig-Id] User Uid = 110439218
[Orig-Id] Group Id = ngngroupB1
[Orig-Id] Service Provider Id = ngnentB1
[Orig-Id] Reseller Id = null
[Orig-Id] ASCII First Name = Marek
[Orig-Id] ASCII Last Name = Leus
[Orig-Id] Unicode First Name = Marek
[Orig-Id] Unicode Last Name = Leus
[Orig-Id] Country Code = 1
[Orig-Id] User Type = User
[Orig-Id] Trunk User Type = BroadWorks Regular User
[Orig-Id] (0) Address type = main
[Orig-Id] (0) dn = +15403362011
[Orig-Id] (0) extension = 2011
[Orig-Id] activeAsComponentID = [vnf=null,vnfc=1]
[Orig-Id] beingRemoved = false
[Orig-Id] configurable CLID = 5403362010
[Orig-Id] synchronizationASRSentToNS = false
```

그러면 발신자가 로컬이므로 사용자에게 대한 모든 세부사항이 인쇄됩니다. 이 섹션에서는 사용자의 이름(Marek) 및 성(Leus), 내선 번호(2011)는 물론, 전체 번호(+15403362011)와 해당 사용자가 속한 기업/그룹(ngnentB1/ngngroupB1)에 대해 알아볼 수 있습니다.

```
=====
===== ORIGINATING CALL INFO =====
=====
[Orig/CallServiceBus] CallId is callhalf-60455:0
[Orig/CallServiceBus] === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus] TranslationServiceOrigInstance has CONSUMED the event.
[Orig/CallServiceBus] CallId is callhalf-60455:0
[Orig/CallServiceBus] === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus] Resuming event processing after TranslationServiceOrigInstance
[Orig/CallServiceBus] SecurityClassificationServiceInstance has processed the event...continue
[Orig/CallServiceBus] CMServiceInstance has processed the event...continue
[Orig/CallServiceBus] ReturnCallServiceInstance has processed the event...continue
[Orig/CallServiceBus] LNDServiceInstance has processed the event...continue
[Orig/CallServiceBus] GETSServiceInstance has processed the event...continue
```

```

[Orig/CallServiceBus]      EnhancedCallLogsServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LocationControlServiceInstance has processed the event...continue
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      OCPOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      Validating origination. Using call type Group
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      Validation returned disposition Allow - OCP call

[Orig/CallServiceBus]      ACRFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      NPAnnouncementServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallCenterAgentCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      PTTOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LegacyACBServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AutomaticCallbackServiceInstance has processed the event...continue
[Orig/CallServiceBus]      TreatmentsServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CFAlwaysFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      SCFFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallWaitingFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      VMServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AnswerTimerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      DNDFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CPCServiceInstance has processed the event...continue
[Orig/CallServiceBus]      ClassmarkServiceInstance has processed the event...continue
[Orig/CallServiceBus]      VAOCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AoCServiceInstance has processed the event...continue
[Orig/CallServiceBus]      EmergencyCallTimerServiceInstance has processed the event...continue
[Orig/CallServiceBus]      SCRFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      ExecutiveAssistantOrigServiceInstance has processed the event...continue
[Orig/VTR_FINAL]      Triggering report.

```

서비스가 활성화되지 않은 단순 사용자이므로 Originating Call Information(발신 통화 정보) 섹션에 많은 정보가 없습니다. AS는 한 서비스를 차례로 확인하고, 결국 VTR의 다음 섹션으로 이동합니다. 또한 이 통화를 그룹 통화로 정의합니다. 이 VTR 분석과 XSLogs의 상관관계를 분석하려면 이 섹션에서 callhalf ID(callhalf-60455)를 추출한 다음 이 ID를 사용하여 로그 파일에서 이 호출을 찾을 수 있습니다. 예를 들면 다음과 같습니다.

```

bwadmin@as1.mleus.lab$ less XSLog2023.01.27-00.00.00.txt | grep callhalf-60455
2023.01.27 10:28:38:819 CET | Info          | Sip | BCCT Worker #1 | 3104778 | +15403362011 | callhalf-60455
$ new CHSS > +15403362011 > > callhalf-60455
2023.01.27 10:28:38:819 CET | FieldDebug | StateReplication | BCCT Worker #1 | 3104779 | +15403362011 |
2023.01.27 10:28:38:821 CET | Info          | CallP | Call Half Input Adapter 5 | 3104780 | Call Manager |

```

다음 섹션은 Originating Translation Result(번역 결과 생성)입니다.

```

=====
=====  ORIGINATING TRANSLATION RESULT  =====
=====
[Orig-Xlation/DialPlanPolicy]      --Dial Plan Policy Information--
[Orig-Xlation/DialPlanPolicy]      requiresAccessCodeForPublicCalls = false
[Orig-Xlation/DialPlanPolicy]      allowE164PublicCalls             = false
[Orig-Xlation/DialPlanPolicy]      privateDigitMap                  =
[Orig-Xlation/DialPlanPolicy]      publicDigitMap                   = ([2-9]11|[0-1][2-9]11|0[#T]|00|01[2
[Orig-Xlation/DialPlanPolicy]      preferE164FormatForCallbackSvcs = false

```

```

[Orig-Xlation/NetworkUsagePolicy] Network Usage Policy is - do not force all calls to network -
[Orig-Xlation/TranslationManager] Translation Client: Translation Service Originating Side call Id i
[Orig-Xlation/TranslationManager] === TranslationResult ===
[Orig-Xlation/TranslationManager] callType          Group
[Orig-Xlation/TranslationManager] address          2012
[Orig-Xlation/TranslationManager] destination uid   156778964
[Orig-Xlation/TranslationManager] destination user Id ngnuserB2@mleus.lab
[Orig-Xlation/TranslationManager] addressType      main
[Orig-Xlation/TranslationManager] originalAddress   2012
[Orig-Xlation/TranslationManager] dgcAlternateAddress 2012
[Orig-Xlation/TranslationManager] isServiceCode    false
[Orig-Xlation/TranslationManager] sc8Translated    false
[Orig-Xlation/TranslationManager] sc100Translated  false
[Orig-Xlation/TranslationManager] oacTranslated    false
[Orig-Xlation/TranslationManager] carrierPrefixTranslated false
[Orig-Xlation/TranslationManager] intraSP          false
[Orig-Xlation/TranslationManager] alias            false
[Orig-Xlation/TranslationManager] preExtEmergencyRtgAK null

```

이 섹션에서는 특정 통화에 적용되는 다이얼 플랜에 대해 알아볼 수 있습니다. 이 통화의 경우 출력은 그룹 내의 통화임을 알리고 사용자 ngnuserB2@mleus.lab으로 전달합니다. 다음 섹션에서는 이 사용자에 대해 자세히 설명합니다.

```

=====
===== TERMINATING CALL INFO =====
=====
[Term/CallManagerServiceBus] CallManagerId is callhalf-60459
[Term/CallManagerServiceBus] === Routing TerminationEvent on the Call Manager bus ===

[Term/Term-Id] Terminating user type: BroadWorks
[Term/Term-Id] User Info
[Term/Term-Id] User Id          = ngnuserB2@mleus.lab
[Term/Term-Id] User Uid        = 156778964
[Term/Term-Id] Group Id       = ngngroupB1
[Term/Term-Id] Service Provider Id = ngnentB1
[Term/Term-Id] Reseller Id     = null
[Term/Term-Id] ASCII First Name = John
[Term/Term-Id] ASCII Last Name  = Doe
[Term/Term-Id] Unicode First Name = John
[Term/Term-Id] Unicode Last Name = Doe
[Term/Term-Id] Country Code     = 1
[Term/Term-Id] User Type        = User
[Term/Term-Id] Trunk User Type   = BroadWorks Regular User
[Term/Term-Id] (0) Address type  = main
[Term/Term-Id] (0) dn           = +15403362012
[Term/Term-Id] (0) extension    = 2012
[Term/Term-Id] activeAsComponentID = [vnf=null,vnfc=1]
[Term/Term-Id] beingRemoved      = false
[Term/Term-Id] configurable CLID  = 5403362010
[Term/Term-Id] synchronizationASRSentToNS = false

```

이 부분에서는 통화자에 대해 이전에 설명한 것과 동일한 통화 대상에 대한 세부 정보를 학습합니다. 이름, 성(John Doe), 내선 번호(2012), 전체 번호(+15403362012), 엔터프라이즈/그룹(ngnentB1/ngngroupB1)

```

[Term/CallServiceBus]      CallId is callhalf-60459:0
[Term/CallServiceBus]      === Routing InvitationEvent on the Terminating Call bus ===

[Term/CallServiceBus]      TranslationServiceTermInstance has processed the event...continue
[Term/CallServiceBus]      NumberPortabilityQueryServiceTermInstance has processed the event...continue
[Term/CallServiceBus]      CMServiceInstance has processed the event...continue
[Term/CallServiceBus]      GETSServiceInstance has processed the event...continue
[Term/CallServiceBus]      CallCenterAgentCallServiceInstance has processed the event...continue
[Term/CallServiceBus]      OCPTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus]      ICPServiceInstance has processed the event...continue
[Term/CallServiceBus]      ACRServiceInstance has processed the event...continue
[Term/CallServiceBus/SCRServiceInstance]  Criteria Set(s) evaluated but not triggered:
[Term/CallServiceBus/SCRServiceInstance]
[Term/CallServiceBus/SCRServiceInstance]  Criteria Set:
[Term/CallServiceBus/SCRServiceInstance]  description: Reject_all
[Term/CallServiceBus/SCRServiceInstance]  active: false
[Term/CallServiceBus/SCRServiceInstance]  blackListFlag: false
[Term/CallServiceBus/SCRServiceInstance]  ScheduleCriteria
[Term/CallServiceBus/SCRServiceInstance]  - No Schedule associated
[Term/CallServiceBus/SCRServiceInstance]  - inScheduleRightNow: true
[Term/CallServiceBus/SCRServiceInstance]  CallingPartyAddressCriteria
[Term/CallServiceBus/SCRServiceInstance]  Any Address
[Term/CallServiceBus/SCRServiceInstance]  CallToCriteria
[Term/CallServiceBus/SCRServiceInstance]  CallTo matches ANY

[Term/CallServiceBus]      SCRServiceInstance has processed the event...continue
[Term/CallServiceBus]      PTTTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus]      LNRServiceInstance has processed the event...continue
[Term/CallServiceBus]      EnhancedCallLogsServiceInstance has processed the event...continue
[Term/CallServiceBus]      GroupNightForwardingServiceInstance has processed the event...continue
[Term/CallServiceBus]      FaxMessagingServiceInstance has processed the event...continue
[Term/CallServiceBus]      SCFServiceInstance has processed the event...continue
[Term/CallServiceBus]      CFAIwaysTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus]      DNDServiceInstance has processed the event...continue
[Term/CallServiceBus]      PersonalAssistantServiceInstance has processed the event...continue
[Term/CallServiceBus]      CallWaitingTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus]      PreAlertingAnnouncementServiceInstance has processed the event...continue
[Term/CallServiceBus]      AnswerTimerServiceInstance has processed the event...continue
[Term/CallServiceBus]      VMServiceInstance has processed the event...continue
[Term/CallServiceBus]      RedirectionServiceInstance has processed the event...continue
[Term/CallServiceBus]      SecurityClassificationServiceInstance has processed the event...continue
[Term/CallServiceBus]      ExecutiveTermServiceInstance has processed the event...continue
[Term/CallServiceBus]      ExecutiveAssistantTermServiceInstance has processed the event...continue

```

또한 이 섹션에서는 모든 서비스를 확인합니다. 이 사용자에게 배정된 서비스는 하나뿐이지만(선택적 통화 수락) 유일한 기준 집합(Reject_2011)은 비활성 상태입니다. 따라서 트리거되지 않으며 VTR 분석은 최종 분석 결과를 표시하는 Terminating Call Info(종료 통화 정보) 섹션의 다음 단계로 이동합니다.

```

[Term/CallManagerServiceBus]  CallManagerId is callhalf-60459
[Term/CallManagerServiceBus]  === Routing InvitationEvent on the Call Manager bus ===

[Term/CallManagerServiceBus]  AccessRoutingServiceInstance has processed the event...continue
[Term/CallManagerServiceBus]  VAOSServiceInstance has processed the event...continue
[Term/CallManagerServiceBus]  TSDServiceInstance has processed the event...continue

```

[Term/CallManagerServiceBus] SCAPServiceInstance has processed the event...continue
[Term/CallManagerServiceBus] CallCenterAgentServiceInstance has processed the event...continue
[Term/CallManagerServiceBus] FlashServiceInstance has processed the event...continue
[Term/CallManagerServiceBus] RingTimeoutServiceInstance has processed the event...continue
[Term/SipINVITE] Outgoing resulting INVITE for Endpoint Id: callhalf-60459:0
udp 1195 SIP Bytes OUT to 10.61.71.93:62388
INVITE sip:5403362012@10.61.71.93:62388;transport=UDP;rinstance=c71abb15b3ff5d4a SIP/2.0
Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.61.71.93V62388-0-960978525-1694279
From:"Marek Leus"

;tag=1694279432-1674811718841-
To:"John Doe"

Call-ID:BW102838841270123-1135433227@10.48.93.126
CSeq:960978525 INVITE
Contact:

Supported:100rel
Allow:ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY,UPDATE
Call-Info:

;appearance-index=1
Recv-Info:x-broadworks-client-session-info
Accept:application/media_control+xml,application/sdp,multipart/mixed
Max-Forwards:10
Content-Type:application/sdp
Content-Length:410

v=0
o=- 123 123 IN IP4 127.0.0.1
s=-
c=IN IP4 127.0.0.1
t=0 0
m=audio 16428 RTP/AVP 0 2 4 8 18 96 97 98 100 101
a=rtpmap:0 PCMU/8000
a=rtpmap:2 G726-32/8000
a=rtpmap:4 G723/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729a/8000
a=rtpmap:96 G726-40/8000
a=rtpmap:97 G726-24/8000
a=rtpmap:98 G726-16/8000
a=rtpmap:100 NSE/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=ptime:20
a=sendrecv

이 섹션에서는 실제 통화인 경우 최종 목적지로 확장되는 INVITE 메시지를 볼 수 있습니다. 또한 로그 파일에서 이 통화를 추적하는 데 사용할 수 있는 callhalf ID(callhalf-60459)를 추출할 수 있습니다.

```
bwadmin@as1.mleus.lab$ less XSLog2023.01.27-00.00.00.txt | grep callhalf-60459
2023.01.27 10:28:38:827 CET | Info          | Sip | Call Half Input Adapter 5 | 3104796 | +15403362012 | c
    $ new CHSS > +15403362012 > callhalf-60455:0 > callhalf-60459
2023.01.27 10:28:38:827 CET | FieldDebug | StateReplication | Call Half Input Adapter 5 | 3104797 | +15
2023.01.27 10:28:38:827 CET | Info          | CallP | Call Half Input Adapter 0 | 3104798 | Call Manager |
```

마지막 두 섹션에는 이 분석의 최종 결과와 타임스탬프가 표시됩니다.

```
=====
=====                TIMESTAMPS                =====
=====
[Timestamps]      Start time = 2023.01.27 10:28:38:819 CET
[Timestamps]      End time   = 2023.01.27 10:28:38:846 CET
=====
=====                RESULT: ALLOWED                =====
=====
```

시나리오 2: 선택적 통화 수락 서비스에 의해 거부된 통화

이 시나리오에서는 한 로컬 사용자가 내선 번호로 다른 로컬 사용자에게 다시 전화를 겁니다. 그러나 이번에는 선택적 통화 수락이 이 통화를 거부하도록 구성됩니다. 이 통화에 대한 자세한 내용을 보려면 VTR 출력을 살펴보도록 하겠습니다.

```
AS_CLI/ASDiagnostic/Diag> vtr userId ngnuserB1@mleus.lab 2012
VTR Result:
-----
Using following parameters to run short form VTR command
-----
VtrOriginationEvent
vtrKey          16
origUserId      ngnuserB1@mleus.lab
origUserUid     110439218
requestURI equivalent 2012@10.48.93.126:5060
dialedDigits (initial) 2012
deviceEndpoint  5403362011@mleus.lab
```

lvtr 결과의 첫 번째 섹션에서 AS가 vtr 명령의 매개변수를 SIP URL에 매핑하는 방법을 확인할 수 있습니다.

- 발신자: 5403362011@mleus.lab
- 대상: 2012@10.48.93.126:5060

첫 번째 시나리오와 정확히 동일한 발신자이므로 이에 대한 발신자 정보 섹션도 정확히 동일합니다. 따라서 명확성을 위해 건너뛰고 Originating Call Information(발신 통화 정보) 섹션으로 계속 분석합니다.

```
=====
=====  ORIGINATING CALL INFO  =====
=====
[Orig/CallServiceBus]      CallId is callhalf-60507:0
[Orig/CallServiceBus]      === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus]      TranslationServiceOrigInstance has CONSUMED the event.
[Orig/CallServiceBus]      CallId is callhalf-60507:0
[Orig/CallServiceBus]      === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus]      Resuming event processing after TranslationServiceOrigInstance
[Orig/CallServiceBus]      SecurityClassificationServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CMServiceInstance has processed the event...continue
[Orig/CallServiceBus]      ReturnCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LNDServiceInstance has processed the event...continue
[Orig/CallServiceBus]      GETSServiceInstance has processed the event...continue
[Orig/CallServiceBus]      EnhancedCallLogsServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LocationControlServiceInstance has processed the event...continue
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      OCPOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      Validating origination. Using call type Group
[Orig/CallServiceBus/OCPOriginatorServiceInstance]      Validation returned disposition Allow - OCP call

[Orig/CallServiceBus]      ACRFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      NPAnnouncementServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallCenterAgentCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      PTTOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LegacyACBServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AutomaticCallbackServiceInstance has processed the event...continue
[Orig/CallServiceBus]      TreatmentsServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CFAlwaysFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      SCFFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallWaitingFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      VMSServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AnswerTimerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      DNDFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CPCServiceInstance has processed the event...continue
[Orig/CallServiceBus]      ClassmarkServiceInstance has processed the event...continue
[Orig/CallServiceBus]      VAOCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AoCServiceInstance has processed the event...continue
[Orig/CallServiceBus]      EmergencyCallTimerServiceInstance has processed the event...continue
[Orig/CallServiceBus]      SCRFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      ExecutiveAssistantOrigServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallId is callhalf-60507:0
[Orig/CallServiceBus]      === Routing ReleaseWithCauseEvent on the Originating Call bus ===
```



```

[Orig/CallServiceBus] TranslationServiceOrigInstance has processed the event...continue
[Orig/CallServiceBus] CallTransferRecallServiceInstance has processed the event...continue
[Orig/CallServiceBus] CMServiceInstance has processed the event...continue
[Orig/CallServiceBus] GETSServiceInstance has processed the event...continue
[Orig/CallServiceBus] EnhancedCallLogsServiceInstance has processed the event...continue
[Orig/CallServiceBus] OCPOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus] CallCenterAgentCallServiceInstance has processed the event...continue
[Orig/CallServiceBus] PTTOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus] CallParkServiceInstance has processed the event...continue
[Orig/CallServiceBus] LegacyACBServiceInstance has processed the event...continue
[Orig/CallServiceBus] AutomaticCallbackServiceInstance has processed the event...continue
[Orig/CallServiceBus/TreatmentsServiceInstance] TreatmentsServiceInstance has processed the event...
[Orig/CallServiceBus/TreatmentsServiceInstance] Treatments Service would have started the announceme
[Orig/CallServiceBus/TreatmentsServiceInstance] Letting event continue to release test call resource

[Orig/CallServiceBus] CallWaitingFACServiceInstance has processed the event...continue
[Orig/CallServiceBus] CFBusyFACServiceInstance has processed the event...continue
[Orig/CallServiceBus] CFNoAnswerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus] VMServiceInstance has processed the event...continue
[Orig/CallServiceBus] CFNotReachableFACServiceInstance has processed the event...continue
[Orig/CallServiceBus] DirectedCallPickupServiceInstance has processed the event...continue
[Orig/CallServiceBus] DPUBIServiceInstance has processed the event...continue
[Orig/CallServiceBus] AnswerTimerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus] MusicOnHoldServiceInstance has processed the event...continue
[Orig/CallServiceBus] AoCServiceInstance has processed the event...continue
[Orig/CallServiceBus] EmergencyCallTimerServiceInstance has processed the event...continue
[Orig/ReleaseWithCauseHandler] Post Processing RWC for Call.

```

이 섹션에서는 대상 번호가 AS에 알려져 있으며 통화를 그룹 통화로 정의하는 것을 보여줍니다. 하지만, 여러분은 또한 어떤 것이 잘못되었는지 여부를 결정할 수 있습니다. 먼저 "Routing ReleaseWithCauseEvent on the Originating Call bus" 문과 TreatmentServiceInstance가 관련됩니다. 마찬가지로 이 섹션은 ReleaseWithCauseHandler로 끝납니다.

다음 섹션은 Originating Translation Result(변환 결과 시작)이며, 통화가 동일한 사용자에게 전달되기 때문에 시나리오 1의 섹션과 동일합니다. 따라서 명확성을 기하기 위해 생략하였다. 차이가 종료 통화 정보 섹션에 나타납니다.

```

=====
===== TERMINATING CALL INFO =====
=====
[Term/CallManagerServiceBus] CallManagerId is callhalf-60511
[Term/CallManagerServiceBus] === Routing TerminationEvent on the Call Manager bus ===

[Term/Term-Id] Terminating user type: BroadWorks
[Term/Term-Id] User Info
[Term/Term-Id] User Id = ngnuserB2@mleus.lab
[Term/Term-Id] User Uid = 156778964
[Term/Term-Id] Group Id = ngngroupB1
[Term/Term-Id] Service Provider Id = ngnentB1
[Term/Term-Id] Reseller Id = null
[Term/Term-Id] ASCII First Name = John
[Term/Term-Id] ASCII Last Name = Doe
[Term/Term-Id] Unicode First Name = John
[Term/Term-Id] Unicode Last Name = Doe

```

[Term/Term-Id] Country Code = 1
[Term/Term-Id] User Type = User
[Term/Term-Id] Trunk User Type = BroadWorks Regular User
[Term/Term-Id] (0) Address type = main
[Term/Term-Id] (0) dn = +15403362012
[Term/Term-Id] (0) extension = 2012
[Term/Term-Id] activeAsComponentID = [vnf=null,vnfc=1]
[Term/Term-Id] beingRemoved = false
[Term/Term-Id] configurable CLID = 5403362010
[Term/Term-Id] synchronizationASRSentToNS = false

[Term/CallServiceBus] CallId is callhalf-60511:0
[Term/CallServiceBus] === Routing InvitationEvent on the Terminating Call bus ===

[Term/CallServiceBus] TranslationServiceTermInstance has processed the event...continue
[Term/CallServiceBus] NumberPortabilityQueryServiceTermInstance has processed the event...continue
[Term/CallServiceBus] CMServiceInstance has processed the event...continue
[Term/CallServiceBus] GETSServiceInstance has processed the event...continue
[Term/CallServiceBus] CallCenterAgentCallServiceInstance has processed the event...continue
[Term/CallServiceBus] OCPTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] ICPServiceInstance has processed the event...continue
[Term/CallServiceBus] ACRServiceInstance has processed the event...continue
[Term/CallServiceBus/SCASServiceInstance] Criteria Set evaluated and triggered:
[Term/CallServiceBus/SCASServiceInstance] Criteria Set:
[Term/CallServiceBus/SCASServiceInstance] description: Reject_2011
[Term/CallServiceBus/SCASServiceInstance] active: true
[Term/CallServiceBus/SCASServiceInstance] blacklistFlag: true
[Term/CallServiceBus/SCASServiceInstance] ScheduleCriteria
[Term/CallServiceBus/SCASServiceInstance] - No Schedule associated
[Term/CallServiceBus/SCASServiceInstance] - inScheduleRightNow: true
[Term/CallServiceBus/SCASServiceInstance] CallingPartyAddressCriteria
[Term/CallServiceBus/SCASServiceInstance] +15403362011
[Term/CallServiceBus/SCASServiceInstance] CallToCriteria
[Term/CallServiceBus/SCASServiceInstance] CallTo matches ANY

[Term/CallServiceBus] SCASServiceInstance has CONSUMED the event.
[Term/CallServiceBus] CallId is callhalf-60511:0
[Term/CallServiceBus] === Routing ReleaseWithCauseEvent on the Terminating Call bus ===
[Term/CallServiceBus] TranslationServiceTermInstance has processed the event...continue
[Term/CallServiceBus] CMServiceInstance has processed the event...continue
[Term/CallServiceBus] CallParkServiceInstance has processed the event...continue
[Term/CallServiceBus] GETSServiceInstance has processed the event...continue
[Term/CallServiceBus] CallCenterAgentCallServiceInstance has processed the event...continue
[Term/CallServiceBus] OCPTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] PTTTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] LNRServiceInstance has processed the event...continue
[Term/CallServiceBus] EnhancedCallLogsServiceInstance has processed the event...continue
[Term/CallServiceBus] PersonalAssistantServiceInstance has processed the event...continue
[Term/CallServiceBus] CallWaitingTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] CFBusyTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] AnswerTimerServiceInstance has processed the event...continue
[Term/CallServiceBus] CFNotReachableTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] CFNoAnswerTerminatorServiceInstance has processed the event...continue
[Term/CallServiceBus] VMServiceInstance has processed the event...continue
[Term/CallServiceBus] DirectedCallPickupServiceInstance has processed the event...continue
[Term/CallServiceBus] DPUBIServiceInstance has processed the event...continue
[Term/CallServiceBus] RedirectionServiceInstance has processed the event...continue
[Term/CallServiceBus] MusicOnHoldServiceInstance has processed the event...continue

이번에는 Reject_2011 조건 집합이 활성 상태임을 확인할 수 있습니다. 따라서 선택적 통화 수락 서비스가 트리거됩니다. 따라서 종료 통화 버스에서 ReleaseWithCauseEvent가 발생합니다. AS는 나머지 서비스를 확인하고 Treatment Information(치료 정보) 섹션으로 이동합니다.

```
=====
=====  TREATMENT INFORMATION  =====
=====
[Treatment/TreatmentsService]  Treatment service processing RWC. Release Cause is FORBIDDEN
[Treatment/TreatmentsService]  defaultAnnouncement isTrtCallFailure.wav
[Treatment/TreatmentsService]  defaultTone is reorder-pcmu.wav

[Treatment/TreatmentsService]  Configurable Treatment NOT used but specific audio treatment files have
[Treatment/TreatmentsService]  audioAnnouncement(s):
[Treatment/TreatmentsService]  https://10.48.93.126/media/en/TrtSelectCallReject.wav
[Treatment/TreatmentsService]  https://10.48.93.126/media/en/silence10s.wav
[Treatment/TreatmentsService]  https://10.48.93.126/media/en/TrtSelectCallReject.wav
```

이 섹션에서는 통화 실패의 이유(FORBIDDEN)와 TrtSelectCallReject.wav 알림을 재생해야 하는 이유를 확인할 수 있습니다.

마지막 두 섹션에는 이 분석의 최종 결과와 타임스탬프가 표시됩니다.

```
=====
=====  TIMESTAMPS  =====
=====
[Timestamps]  Start time = 2023.01.27 10:31:29:425 CET
[Timestamps]  End time   = 2023.01.27 10:31:29:466 CET

=====
=====  RESULT: BLOCKED  =====
=====
```

시나리오 3: 할당되지 않은 번호로 통화

이 시나리오에서 한 로컬 사용자가 할당되지 않은 다른 내선 번호로 전화를 겁니다. 이 통화에 대한 자세한 내용을 보려면 VTR 출력을 살펴보도록 하겠습니다.

```
AS_CLI/ASDiagnostic/Diag> vtr userId ngnuserB1@mleus.lab 2014
VTR Result:
-----
Using following parameters to run short form VTR command
-----
VtrOriginationEvent
vtrKey                14
origUserId             ngnuserB1@mleus.lab
origUserUId           110439218
requestURI equivalent  2014@10.48.93.126:5060
```

dialedDigits (initial) 2014
deviceEndpoint 5403362011@mleus.lab

VTR 결과의 첫 번째 섹션에서는 AS가 vtr 명령의 매개변수를 SIP URL에 매핑하는 방법을 확인할 수 있습니다.

- 발신자: 5403362011@mleus.lab
- 대상: 2014@10.48.93.126:5060

첫 번째 시나리오와 정확히 동일한 발신자이므로 이에 대한 발신자 정보 섹션도 정확히 동일합니다. 따라서 명확성을 위해 건너뛰고 Originating Call Information(발신 통화 정보) 섹션으로 계속 분석합니다.

```
=====
=====  ORIGINATING CALL INFO  =====
=====
[Orig/CallServiceBus]      CallId is callhalf-60487:0
[Orig/CallServiceBus]      === Routing InvitationEvent on the Originating Call bus ===

[Orig/CallServiceBus]      TranslationServiceOrigInstance has CONSUMED the event.
[Orig/CallServiceBus]      CallId is callhalf-60487:0
[Orig/CallServiceBus]      === Routing ReleaseWithCauseEvent on the Originating Call bus ===

[Orig/CallServiceBus]      TranslationServiceOrigInstance has processed the event...continue
[Orig/CallServiceBus]      CallTransferRecallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CMServiceInstance has processed the event...continue
[Orig/CallServiceBus]      GETSServiceInstance has processed the event...continue
[Orig/CallServiceBus]      EnhancedCallLogsServiceInstance has processed the event...continue
[Orig/CallServiceBus]      OCPOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallCenterAgentCallServiceInstance has processed the event...continue
[Orig/CallServiceBus]      PTTOriginatorServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CallParkServiceInstance has processed the event...continue
[Orig/CallServiceBus]      LegacyACBServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AutomaticCallbackServiceInstance has processed the event...continue
[Orig/CallServiceBus/TreatmentsServiceInstance]      TreatmentsServiceInstance has processed the event...
[Orig/CallServiceBus/TreatmentsServiceInstance]      Treatments Service would have started the announceme
[Orig/CallServiceBus/TreatmentsServiceInstance]      Letting event continue to release test call resource

[Orig/CallServiceBus]      CallWaitingFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CFBusyFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CFNoAnswerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      VMServiceInstance has processed the event...continue
[Orig/CallServiceBus]      CFNotReachableFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      DirectedCallPickupServiceInstance has processed the event...continue
[Orig/CallServiceBus]      DPUBIServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AnswerTimerFACServiceInstance has processed the event...continue
[Orig/CallServiceBus]      MusicOnHoldServiceInstance has processed the event...continue
[Orig/CallServiceBus]      AoCServiceInstance has processed the event...continue
[Orig/CallServiceBus]      EmergencyCallTimerServiceInstance has processed the event...continue
[Orig/ReleaseWithCauseHandler]      Post Processing RWC for Call.
```

이 섹션에서는 이미 무언가 잘못되었다는 것을 파악할 수 있습니다. 먼저 "Routing InvitationEvent on the Originating Call bus" 문 대신 "Routing ReleaseWithCauseEvent on the Originating Call bus" 문이 있습니다. 그런 다음 TreatmentServiceInstance 문이 포함됩니다. 마지막으로, 섹션은 ReleaseWithCauseHandler 문으로 끝납니다.

```
=====
=====  ORIGINATING TRANSLATION RESULT  =====
=====
[Orig-Xlation/DialPlanPolicy]    --Dial Plan Policy Information--
[Orig-Xlation/DialPlanPolicy]    requiresAccessCodeForPublicCalls = false
[Orig-Xlation/DialPlanPolicy]    allowE164PublicCalls           = false
[Orig-Xlation/DialPlanPolicy]    privateDigitMap               =
[Orig-Xlation/DialPlanPolicy]    publicDigitMap                 = ([2-9]11|[0-1][2-9]11|0[#T]|00|01[2
[Orig-Xlation/DialPlanPolicy]    preferE164FormatForCallbackSvcs = false

[Orig-Xlation/NetworkUsagePolicy] Network Usage Policy is - do not force all calls to network -
[Orig-Xlation/NetworkServerINVITE] Sending INVITE event to network server for Translation Service Or
[Orig-Xlation/NetworkServerINVITE] Endpoint Id: callhalf-60487:0
udp 1128 SIP Bytes OUT to 10.48.93.128:5060
INVITE sip:2014@10.48.93.128;user=phone;transport=udp SIP/2.0
Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.48.93.128V5060-0-960997887-1152157
From:"Marek Leus"

;tag=1152157837-1674811757564-
To:

Call-ID:BW1029175642701231892598132@10.48.93.126
CSeq:960997887 INVITE
Contact:

P-Asserted-Identity:"Marek Leus"

Privacy:none
X-BroadWorks-Correlation-Info:be8fde53-9ba5-4fc4-a788-ee426ed1fe90
Allow:ACK,BYE,CANCEL,INFO,INVITE,OPTIONS,PRACK,REFER,NOTIFY
Supported:
Max-Forwards:10
Content-Type:application/sdp
Content-Length:410

v=0
o=- 123 123 IN IP4 127.0.0.1
s=-
c=IN IP4 127.0.0.1
t=0 0
m=audio 16428 RTP/AVP 0 2 4 8 18 96 97 98 100 101
a=rtpmap:0 PCMU/8000
a=rtpmap:2 G726-32/8000
```

a=rtpmap:4 G723/8000
a=rtpmap:8 PCMA/8000
a=rtpmap:18 G729a/8000
a=rtpmap:96 G726-40/8000
a=rtpmap:97 G726-24/8000
a=rtpmap:98 G726-16/8000
a=rtpmap:100 NSE/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=ptime:20
a=sendrecv

[Orig-Xlation/NS-RESPONSE] Got Network Server response for Translation Service Originating Side client
udp 394 SIP Bytes IN from 10.48.93.128:49109
SIP/2.0 404 Not found
Via:SIP/2.0/UDP 10.48.93.126;branch=z9hG4bKBroadWorks.-iom24c-10.48.93.128V5060-0-960997887-1152157
From:"Marek Leus"

;tag=1152157837-1674811757564-
To:

;tag=1006595920-1674811749882
Call-ID:BW1029175642701231892598132@10.48.93.126
CSeq:960997887 INVITE
Content-Length:0

[Orig-Xlation/TranslationManager]	Translation Client: Translation Service Originating Side call Id i
[Orig-Xlation/TranslationManager]	=== TranslationResult ===
[Orig-Xlation/TranslationManager]	callType Network
[Orig-Xlation/TranslationManager]	address 2014
[Orig-Xlation/TranslationManager]	addressType main
[Orig-Xlation/TranslationManager]	isServiceCode false
[Orig-Xlation/TranslationManager]	sc8Translated false
[Orig-Xlation/TranslationManager]	sc100Translated false
[Orig-Xlation/TranslationManager]	oacTranslated false
[Orig-Xlation/TranslationManager]	carrierPrefixTranslated false
[Orig-Xlation/TranslationManager]	intraSP false
[Orig-Xlation/TranslationManager]	alias false
[Orig-Xlation/TranslationManager]	preExtEmergencyRtgAK null
[Orig-Xlation/TranslationManager]	=== Carrier Info ===
[Orig-Xlation/TranslationManager]	;cse1=noind

Originating Translation Result(원래 변환 결과) 섹션에서는 통화에 실패한 이유에 대한 정보를 제공

합니다. AS가 NS를 사용하여 2014년 숫자를 확인하려고 시도하지만 404 Not Found 오류 응답을 반환한다는 것은 출력에서 분명합니다.

통화를 목적지로 확장할 수 없으므로 통화 종료 정보 섹션은 매우 간단합니다.

```
=====
===== TERMINATING CALL INFO =====
=====
[Term] Terminating call processing information has not been populated
```

대신 실패한 통화를 처리해야 하는 방법에 대한 정보가 포함된 처리 정보 섹션이 있습니다.

```
=====
===== TREATMENT INFORMATION =====
=====
[Treatment/TreatmentsService] Treatment service processing RWC. Release Cause is USER_NOT_FOUND
[Treatment/TreatmentsService] defaultAnnouncement isTrtUnknownUser.wav
[Treatment/TreatmentsService] defaultTone is reorder-pcmu.wav

[Treatment/TreatmentsService] Treatment playing default announcement https://10.48.93.126/media/en/T
```

이 섹션에서는 통화 실패 이유(USER_NOT_FOUND)를 소개하고 TrtUnknownUser.wav 알림 및/또는 reorder-pcmu.wav 신호음이 재생될 것임을 알립니다. 또한 적절한 공지를 재생하도록 미디어 서버와의 대화 상자에서 사용할 경로를 가리킵니다.

마지막 두 섹션에는 이 분석의 최종 결과와 타임스탬프가 표시됩니다.

```
=====
===== TIMESTAMPS =====
=====
[Timestamps] Start time = 2023.01.27 10:29:17:525 CET
[Timestamps] End time = 2023.01.27 10:29:17:669 CET

=====
===== RESULT: BLOCKED =====
=====
```

이 번역에 관하여

Cisco는 전 세계 사용자에게 다양한 언어로 지원 콘텐츠를 제공하기 위해 기계 번역 기술과 수작업 번역을 병행하여 이 문서를 번역했습니다. 아무리 품질이 높은 기계 번역이라도 전문 번역가의 번역 결과물만큼 정확하지는 않습니다. Cisco Systems, Inc.는 이 같은 번역에 대해 어떠한 책임도 지지 않으며 항상 원본 영문 문서(링크 제공됨)를 참조할 것을 권장합니다.