SIP 403 Error Source IP Mismatch in Webex Calling Registration

Contents

Issue

Multiple SIP 403 Forbidden responses were observed from the Webex Calling platform affecting outbound external and internal calls across multiple devices and stores. The failures occurred intermittently on 20, July 2026, between approximately 07:04:54 and 09:58:27 Central US Time, with calls clustered in two main bursts around 09:20-09:58 AM and an isolated occurrence at 07:04 AM.

Users experienced call failures requiring them to initiate new calls, with subsequent attempts completing successfully. No specific announcement or error message was heard by users - there were only intermittent call failures affecting both internal and external calls. Inbound PSTN calls through the local gateway continued to function normally during the affected timeframe, while calls routed through the Webex Calling SBC infrastructure experienced the 403 Forbidden responses.

The SIP signaling displayed communication between firewall/SBC IPs and the Webex Calling Chicago SBC (199.19.199.77), with packet capture analysis confirming 45 call attempts rejected with the exact response:

```
SIP/2.0 403 Forbidden
```

Environment

- Webex Calling Wholesale deployment
- Premises-based PSTN/Local Gateway configuration for inbound calls
- External outbound and internal calls routed through Webex Calling SBC
- Network Endpoints: Firewall/SBC IPs and Webex Calling Chicago SBC
- Oracle SBC infrastructure handling registration validation
- Yealink SIP-T48S devices (software version 66.86.0.181)

Resolution

The investigation revealed the SIP 403 Forbidden responses were caused by a source IP address mismatch between SIP registration and call signaling. The Oracle SBC validates incoming INVITE requests originate from the same IP address that was used for the device's SIP registration.

Analysis of the Issue

Engineering analysis of the OCOM Oracle SBC logs and packet captures identified this next sequence for a representative failed call:

Timeline Example (July 22, 2026 - Central US Time):

At 13:13:28 - Oracle SBC receives registration from source IP 199.58.X.1:

<#root>

```
REGISTER sip:us10.bcld.webex.com:5060;maddr=10.71.101.44;transport=udp SIP/2.0
Via: SIP/2.0/UDP 10.71.132.155:5060;branch=z9hG4bKnbv29l10c056l3vars90.2
From: "MAIN" <sip:wi12345678_805E12345678@us10.bcld.webex.com:5060>;tag=SD5tvbc01-656053100
To: "MAIN" <sip:wi12345678_805E12345678@us10.bcld.webex.com:5060>
Call-ID: SD5tvbc01-ef0f7220412938efbcfff0e551d28b3e-aoh8od2040
CSeq: 56495 REGISTER
Contact: <sip:wio12345678_805E12345678-0sec7v5lnkor0@10.71.132.155:5060;endpoint=10.174.110.199:5060;
```

firewall=199.58.x.1:58452

```
;vlan=hosted02i-us.bcld.webex.com_ipv4:187;transport=udp>
```

At 13:13:53 - The INVITE arrives from a different source IP of 199.58.x.1, resulting in 403 Forbidden response because Oracle SBC expects the call to originate from the registered IP (199.58.x.2).

At 13:14:13 - Device resumes registration from 199.58.x.2, and subsequent calls work correctly when both registration and signaling use the same source IP address.

Root Cause Identification

The issue occurs when devices intermittently change the network connection used for SIP registration between different source IP addresses (199.58.x.2 and 199.58.x.1), while call signaling continues from the

original IP address. This creates a mismatch that triggers the Oracle SBC's security validation, resulting in SIP 403 Forbidden responses.

Resolution Steps

To resolve this issue, the network infrastructure must be reviewed to ensure consistent source IP addressing for SIP signaling:

Step 1: Review firewall and NAT configurations to identify why SIP registrations alternate between different source IP addresses.

Step 2: Examine SBC configuration for any load balancing or failover mechanisms that can cause traffic path changes.

Step 3: Verify VLAN and transport configurations to ensure consistent routing paths for SIP signaling.

Step 4: Monitor SIP registration patterns to confirm devices maintain consistent source IP addresses for both registration and call signaling.

Step 5: Implement network changes to eliminate the source IP address switching behavior that triggers Oracle SBC validation failure.

Cause

The SIP 403 Forbidden responses were caused by a source IP address mismatch between SIP device registration and call signaling. The Oracle SBC in the Webex Calling infrastructure validates incoming INVITE requests originate from the same IP address used for the device's SIP registration. When devices intermittently changed their network connection for registration to a different source IP address while calls continued to originate from the original IP, Oracle SBC rejected the calls with 403 Forbidden responses due to this security validation failure.

The underlying network issue causing devices to alternate between different public NAT IP addresses (199.58.x.2 and 199.58.x.1) for SIP signaling indicates a routing or network path problem at the site that requires investigation of firewall, SBC, NAT, VLAN, and transport configurations.

Related Content

- Understand Detailed Call History Report in Webex Calling
- Troubleshoot Webex Calling Calls in Control Hub
- Cisco Technical Support & Downloads