Exploring dtmf_relay_no_iwrk.pcapng

📡 Voice GW B | 📡 Voice GW A | 🖥️ CUCM DTMF | 📞 DTMF Phone A

📁 **dtmf_relay_no_iwrk.pcapng**

📞 SIP INVITE

| | |
|---|---|
| 📡 Via | SIP/2.0/UDP 10.10.223.123:5060;branch=z9hG4bKA818F1 |
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🖥️ UA | Cisco-SIPGateway/IOS-15.8.3.M2 |
| 🔢 CSeq | 101 INVITE |
| 🔢 Max-Fwd | 70 |
| 📞 Contact | <sip:10.10.223.123:5060> |
| 👤 Owner | CiscoSystemsSIP-GW-UserAgent 3216 8308 IN IP4 10.10.223.123 |
| Session Name (s) | SIP Call |
| 🌐 Connection | IN IP4 10.10.223.123 |
| 🎵 Media | audio 16464 RTP/AVP 0 |
| 🌐 Connection | IN IP4 10.10.223.123 |
| 📋 Attr | rtpmap:0 PCMU/8000 |
| 📋 Attr | ptime:20 |

💡 SIP INVITE initiates a call — carries SDP offer with codec/media proposals; callee responds with 180 Ringing, then 200 OK with SDP answer

⏳ SIP 100 Trying

💡 100 Trying — proxy accepted the request and is searching for the callee; stops retransmission timer; no end-to-end significance

📞 SIP INVITE

💡 SIP INVITE initiates a call — carries SDP offer with codec/media proposals; callee responds with 180 Ringing, then 200 OK with SDP answer

| | |
|---|---|
| 📡 Via | SIP/2.0/UDP 10.10.223.107:5060;branch=z9hG4bKB322C2 |
| 🔗 Call-ID | 183A707F-F76D11E9-813DCBC9-8D39E71C@10.10.223.107 |
| 🖥️ UA | Cisco-SIPGateway/IOS-16.12.1a |
| 🔢 CSeq | 101 INVITE |
| 📞 Contact | <sip:10.10.223.107:5060> |
| 🔢 Max-Fwd | 69 |
| 👤 Owner | CiscoSystemsSIP-GW-UserAgent 5677 8908 IN IP4 10.10.223.107 |
| Session Name (s) | SIP Call |
| 🌐 Connection | IN IP4 10.10.223.107 |
| 🎵 Media | audio 8220 RTP/AVP 0 101 |
| 🌐 Connection | IN IP4 10.10.223.107 |
| 📋 Attr | rtpmap:0 PCMU/8000 |
| 📋 Attr | rtpmap:101 telephone-event/8000 |
| 📋 Attr | fmtp:101 0-16 |
| 📋 Attr | ptime:20 |

⏳ SIP 100 Trying

💡 100 Trying — proxy accepted the request and is searching for the callee; stops retransmission timer; no end-to-end significance

🔔 SIP 180 Ringing

💡 180 Ringing — callee's phone is alerting; caller hears locally generated ringback; 183 with SDP offers early media (in-band ringback) instead

🔔 SIP 180 Ringing

💡 180 Ringing — callee's phone is alerting; caller hears locally generated ringback; 183 with SDP offers early media (in-band ringback) instead

Frame 7 | 2019-10-26T21:19:14.302978Z

✅ SIP PRACK

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 102 PRACK |
| 🔢 RAck | 6890 101 INVITE |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation;

| 📡 Voice GW B | 📡 Voice GW A | 🖥️ CUCM DTMF | 📞 DTMF Phone A |
|---|---|---|---|

| | |
|---|---|
| 📞 Contact | <sip:1252@10.10.223.47:5060>;+u.sip!devicename.ccm.cisco.com="SEPF8A5C59E1128" |
| 🌐 Connection | IN IP4 10.10.224.2 |
| 🎵 Media | audio 26396 RTP/AVP 0 101 |
| 📋 Attr | rtpmap:0 PCMU/8000 |
| 📋 Attr | rtpmap:101 telephone-event/8000 |
| 📋 Attr | fmtp:101 0-15 |

caller must send ACK to complete 3-way handshake

✅ SIP ACK

| | |
|---|---|
| 🔗 Call-ID | 183A707F-F76D11E9-813DCBC9-8D39E71C@10.10.223.107 |
| 🔢 CSeq | 101 ACK |

Frame 10 | 2019-10-26T21:19:15.454963Z

✅ SIP 200 OK

| | |
|---|---|
| 📞 Contact | <sip:1252@10.10.223.107:5060> |
| 🌐 Connection | IN IP4 10.10.223.107 |
| 🎵 Media | audio 8218 RTP/AVP 0 |
| 🌐 Connection | IN IP4 10.10.223.107 |
| 📋 Attr | rtpmap:0 PCMU/8000 |
| 📋 Attr | ptime:20 |

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

✅ SIP ACK

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 101 ACK |

Frame 12 | 2019-10-26T21:19:15.476965Z

🎵 RTP

| | |
|---|---|
| Setup frame | 11 |
| Marker | True |
| 🎵 Codec | ITU-T G.711 PCMU (0) |
| Sequence number | 3564 |
| Timestamp | 4128408355 |
| 🔢 SSRC | 0x066fdf7b (107995003) |

Frame 13 | 2019-10-26T21:19:15.509968Z

🎵 RTP

| | |
|---|---|
| Setup frame | 9 |
| Marker | True |
| 🎵 Codec | ITU-T G.711 PCMU (0) |
| Sequence number | 3564 |
| Timestamp | 4128408355 |
| 🔢 SSRC | 0x066fdf7b (107995003) |

Frame 14 | 2019-10-26T21:19:15.509968Z

🎵 RTP

| | |
|---|---|
| Setup frame | 3 |
| Marker | True |
| 🎵 Codec | ITU-T G.711 PCMU (0) |
| Sequence number | 1310 |
| Timestamp | 955089487 |
| 🔢 SSRC | 0x85bfc7b0 (2243938224) |

Frame 15 | 2019-10-26T21:19:15.527972Z

🎵 RTP

| | |
|---|---|
| Setup frame | 1 |
| Marker | True |
| 🎵 Codec | ITU-T G.711 PCMU (0) |
| Sequence number | 1310 |
| Timestamp | 955089487 |
| 🔢 SSRC | 0x85bfc7b0 (2243938224) |

Frame 16 | 2019-10-26T21:19:15.527972Z

📢 SIP NOTIFY

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 103 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

Frame 267 | 2019-10-26T21:19:16.802952Z

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

📡 Voice GW B | 📡 Voice GW A | 🖥️ CUCM DTMF | 📞 DTMF Phone A

📢 SIP NOTIFY

Frame 287 | 2019-10-26T21:19:16.972941Z

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 104 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

🔢 DTMF

💡 DTMF digit sent as RTP Named Telephone Event (RFC 4733) — out-of-band signaling preserves digit accuracy across codec transcoding

| | |
|---|---|
| 🏁 End | False |
| ⏱️ Duration | 0 |

📢 SIP NOTIFY

Frame 369 | 2019-10-26T21:19:17.422967Z

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 105 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

📢 SIP NOTIFY

Frame 385 | 2019-10-26T21:19:17.562959Z

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 106 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

📊 RTCP SR

💡 RTCP Sender Report — media sender reports packet/byte counts and NTP timestamp for lip-sync; receivers use this to calculate jitter and loss

| | |
|---|---|
| 📦 Packets | 119 |
| 📦 Bytes | 19992 |

📊 RTCP SR

💡 RTCP Sender Report — media sender reports packet/byte counts and NTP timestamp for lip-sync; receivers use this to calculate jitter and loss

| | |
|---|---|
| 📦 Packets | 119 |
| 📦 Bytes | 19992 |

📢 SIP NOTIFY

Frame 451 | 2019-10-26T21:19:17.922941Z

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 107 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

📢 SIP NOTIFY

Frame 467 | 2019-10-26T21:19:18.052991Z

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 108 NOTIFY |
| 📋 Event | telephone-event |
| 📊 State | active |

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete

| 📡 Voice GW B | 📡 Voice GW A | 🖥️ CUCM DTMF | 📞 DTMF Phone A |
|---|---|---|---|

3-way handshake

📊 RTCP SR

| | |
|---|---|
| 📦 Packets | 248 |
| 📦 Bytes | 39680 |

💡 RTCP Sender Report — media sender reports packet/byte counts and NTP timestamp for lip-sync; receivers use this to calculate jitter and loss

📊 RTCP SR

| | |
|---|---|
| 📦 Packets | 248 |
| 📦 Bytes | 39680 |

💡 RTCP Sender Report — media sender reports packet/byte counts and NTP timestamp for lip-sync; receivers use this to calculate jitter and loss

🛑 SIP BYE

| | |
|---|---|
| 🔗 Call-ID | 183BD61B-F76D11E9-8118C92B-D2F22CC5@10.10.223.123 |
| 🔢 CSeq | 109 BYE |
| 📋 Reason | Q.850;cause=16 |

💡 SIP BYE terminates an established dialog — both sides send BYE to release media resources; Reason header explains why (e.g., user hangup)

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

🛑 SIP BYE

| | |
|---|---|
| 🔗 Call-ID | 183A707F-F76D11E9-813DCBC9-8D39E71C@10.10.223.107 |
| 🔢 CSeq | 102 BYE |
| 📋 Reason | Q.850;cause=16 |

💡 SIP BYE terminates an established dialog — both sides send BYE to release media resources; Reason header explains why (e.g., user hangup)

✅ SIP 200 OK

💡 200 OK — call answered (for INVITE) or registration accepted (for REGISTER); SDP answer completes codec negotiation; caller must send ACK to complete 3-way handshake

🛑 RTCP BYE

| | |
|---|---|
| ...0 0001 = Source count | 1 |

Frame 1297 | 2019-10-26T21:19:22.250978Z