Webex Calling Desk Phone Audio Cutoff and Receive-Side Latency Issues

Contents

Issue

Multiple Webex Calling desk phone users experienced audio cutoff issues when answering calls. The specific symptoms included:

- The first several seconds of audio were cut off when calls were answered
- Intermittent one-way voice delay up to 5-6 seconds between ext to ext participants or ext to voicemail calls
- No issue with media from desk phones to the cloud

Call quality analysis revealed severe receive-side impairment toward desk phones, including:

- One-way voice delay up to 5-6 seconds at desk phone

The issue was consistently reproducible for internal VLAN phones when calling voicemail (8989 pilot number) and WXCC (4700), while externally/Remote networked phones did not exhibit the problem. WebRTC softphone agents were not impacted by this issue.

Environment

- Webex Calling deployment with desk phones
- Affected devices: Cisco 8865-3PCC, Cisco 9841, Cisco 9851
- Network connection: Ethernet on corporate LAN
- Audio codec: PCMU or OPUS
- Path optimization: No Optimization enabled
- CheckPoint firewall infrastructure

- QoS enabled on switch ports and trunks
- Issue frequency: Approximately 1 out of 6 calls affected

Resolution

The troubleshooting process involved comprehensive analysis of call quality data, network path investigation, and packet capture analysis to isolate the receive-side media impairment.

Step 1: Call Quality Analysis

Multiple call reports were analyzed to confirm the pattern of receive-side impairment. The analysis revealed consistent issues in the receive direction toward desk phones while transmit metrics remained healthy.

Step 2: Network Path Investigation

The investigation focused on isolating where the audio impairment was introduced. Key findings included:

- Good media quality in the direction from Webex Calling Cloud > org edge/CheckPoint firewall > Caller
- The CheckPoint firewall vendor packet capture analysis revealed packets being initially processed on call acceptance, followed by approximately 5 seconds of processing delay.

Step 3: Controlled Testing

Controlled testing was performed using identical Cisco 9851 phones on different networks:

- External/Remote network phone: Calls to voicemail (8989 pilot number) were consistently good with full message heard
- Internal network phone to voicemail (8889 pilot number): First 5 seconds of message intermittently cut off

Test results confirmed the issue was isolated to the network path between CheckPoint firewall and the

corporate LAN infrastructure.

Step 4: Packet Capture Analysis

Simultaneous packet captures were collected from multiple points:

- Phone switch port
- Firewall LAN interface
- Firewall WAN interface

The CheckPoint firewall vendor analysis observed packets being initially received/sent on call acceptance, followed by approximately 5 seconds of delay before more packets were processed.

Step 5: Validation Steps

This validation steps were recommended to confirm the resolution:

1.- Monitor interface counters on affected phone VLAN and WAN edge for queue drops, output drops, and policer drops.

2.- Verify firewall configuration aligns with Cisco Webex Calling port requirements.

3.- Check for congestion or buffering issues on the voice VLAN path.

4.- Validate QoS treatment for RTP traffic.

The case was closed pending CheckPoint firewall vendor analysis results, as the evidence pointed to a network path issue between the firewall and corporate LAN infrastructure.

Cause

The root cause was identified as a receive-path media impairment affecting RTP traffic from Webex Calling Cloud toward internal desk phones. The issue was specifically occurring at or near the internet-edge device of the organization (CheckPoint firewall with IP 192.X.X.X) or within the ISP path.

The analysis showed that while transmit traffic from affected phones remained healthy, there was significant degradation in the RTP traffic toward internal users. The CheckPoint firewall vendor packet capture analysis revealed packets being initially processed on call acceptance, followed by approximately 5 seconds of processing delay, though the exact cause within the firewall processing was not determined at case closure.

This was classified as an interoperability/compatibility issue between your network infrastructure and the CheckPoint firewall, rather than a Webex Calling platform issue.

Related Content

- Troubleshoot Webex Calling calls in Control Hub
- Port Reference Information for Webex Calling
- Generate PRT Manually for MPP Phones Registered to Webex Calling
- Configure Debug Level in MPP Phones Registered to Webex Calling
- Cisco Technical Support & Downloads