

What Causes VoIP One-Way Audio?

One-way audio in a VoIP environment can be frustrating, as one caller can hear everything fine, but the other caller hears nothing. One-way audio can occur at the beginning of a call, or mid-way through an existing call.

Here are the causes of one-way audio, listed in priority order:

- **Firewall misconfiguration.** If a firewall or router ACL is misconfigured and won't permit the voice packets to stream through from one location to another, SIP call handling may establish that the call is stable, yet the RTP packets may only be flowing in one direction.
- **NAT.** If NAT is involved in the communications path and is misconfigured, it may only permit one-way communications between devices. This depends upon whether Network Address Translation or Port Address Translation (PAT) is configured.
- **High one-way packet loss.** If sufficient packet loss occurs in one direction on a call, that half of the conversation may break down, but not cause the entire call to drop. Packet loss can occur due to a number of reasons:
 - High utilization on a link with no QoS.
 - Misconfigured interface: Half-duplex or duplex mismatch.
 - Microburst link floods.
 - Underperforming network devices.
 - Cabling faults.
 - Out-of-order packets.
- **Asymmetric routing.** If the path from phone A to phone B has a nice short low-latency connection, but the returning packets from phone B back to phone A take an alternate path that is high latency, it may cause one-way audio to occur as the return path breaks the audio path for that part of the call.

PathSolutions TotalView can detect when, where, and why all of the above problems occur.

