Why Do VoIP Calls Drop?

When a VoIP call drops, your users become frustrated because they don't know what happened, and they fear that it might happen again. But calls may drop due to a number of reasons. Typically, begin the troubleshooting process by looking at the call disconnect reason in a CDR (Call Detail Record) database on the PBX.

Here are the primary reasons why calls drop (in priority order):

- **High packet loss.** If a sufficient number of VoIP packets are lost in the conversation, the call may disconnect. This may be due to:
    - 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.
- **Non-VoIP related drops.** In many cases, users might complain about a VoIP call dropping but the call might have been dropped because the remote user's cell phone dropped the call. In this case, your VoIP phone system might be perfectly healthy. Confirm this by looking at the CDR's call disconnect reason—it should indicate that the remote endpoint terminated the call.
- **Network instability.** If the network glitches and a link or a device goes down, calls will drop. If a network link flaps down and up, the instability can also cause a call to fail.
- **Gateway resource limitations.** If a VoIP gateway runs out of resources (memory, buffers, CPU utilization), it may drop a call.
- **Soft-phone limitations.**If the call is running on a PC, and the PC is resource-starved or starts an antivirus scan, it may drop the call.
- **Virtual server limitations.** If the voice stream of the call is being run through a voice processing server that is running as a virtual server, it may not have the resources to provide stable packet flow. The virtual machine needs to be properly tuned to run real-time applications.

PathSolutions TotalView is designed to find the root-causes of call drops anywhere in the environment.