COMREX

Modems Vs IP Telephony

Our Hotline, Vector, Matrix and BlueBox products all use V.34 modems designed for operation on conventional phone lines. Best modem performance occurs in the "classic" telephone setup of an analog line to the phone company, a digital conversion to a 64 kb/s path all the way to the other phone office, where the call goes back to analog for delivery to the other codec. The weak links have always been the analog loops at both ends, and any constriction in the digital path that results in a lower data rate. All of these things raise the noise seen by the modems, and may result in low connect speeds or intermittent behavior.

There's a new issue, however. If the network between the analog ends is done on IP circuits, the data throughput may drop, and will certainly be variable. IP traffic is sent with data packets that may be routed over widely different paths, or perhaps dropped altogether. The resulting delays, out-of-sequence data, and dead spots on Voice Over IP (VOIP) networks may be perfectly fine for voice calls, but are downright nasty for modem use. Even worse, data compression schemes such as V.729 that are used to shrink IP telephone channels down to 8 kb/s or less will absolutely keep a modem from operating. You'll probably never even get a connection. Note that the IP conversion may be happening locally, or over the long-distance network.

You are probably familiar with VOIP services offered by telephone and cable companies, as well as independent companies such as Vonage. You would likely know if a phone connection in your home was being handled by VOIP, but it may not be so obvious in businesses, large facilties or college situations. IP call routing is becoming common enough that Comrex recommends that you ask someone knowledgeable at a remote site before using one of our modem-based codecs on their phone circuits. There may be alternatives, even if it involves ordering lines directly from the telephone company in order to bypass the on-site phone system.

At the moment, most long-distance calls are being carried over conventional circuits, but LD companies offering great prices may be using IP telephony. It will be worth paying for long distance through one of the major providers, rather than using a cheap long-distance card. If your boss balks at paying normal long-distance rates, discuss the likely "holes" that may appear in the broadcast!

The Comrex Tech Support staff is happy to help you work through any line-related issues with our POTS codecs.

One other thought! The future of remote audio delivery clearly involves IP networks. With all of the wired and wireless possibilities, you should consider the Comrex ACCESS products. Just go to www.comrex.com for the latest news.