

Echo-Echo Who Has Echo?

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By Matt Brunk

There's never an install without echo! Echo is always present at least to some degree. Migrating a little, a lot or everything over to IP isn't always going to be easy in any case with regards to echo.



Analog loops- POTS (Plain Old Telephone System) are still the best backup lines. The PSTN (Public Switched Telephone Network) is still largely analog on the local loop and for many SMB/E's. Nearly every business has some form of POTS. An old rule remains still applicable today- the longer the loop the more the issues. Long analog loops tend to have higher loop current to support the audio over longer distances. When using pure IP systems to connect to analog lines- it maybe necessary to mitigate echo by using loop current attenuators.

Moving users over to T1, FT-1 and or PRI is one method to reduce the echo issue. Everyone's migration plan isn't always the same or in synch with the budget. Crafting a roadmap be it for customers or users is in the best interest of everyone. While PRI offers faster call setup time than VoIP, VoIP offers faster call setup time than most analog services. Call tear down for T1, VoIP and PRI is also faster. Echo still maybe challenging on T1 spans so it's key to know before hand what echo canceller is available for gateway and T1 cards in your adopted solution.

Echo will come into play in old terms such as tail end hop off or head in hop on. Spend some time to focus on what types of lines and circuits are in your solution. Then outline which calls you expect to route and where. Avoid making across-the-board audio (attenuation) settings because these tend to not resolve echo issues but create new problems. When attempting to route analog calls across your IP network expect echo. You may have a fix if your gear has embedded echo cancellers or you may find PRI as a replacement to POTS lines. You may even get a bit of luck and add loop current attenuators to those analog lines. Mileage varies just like in those MPG ads for automobiles. The flat path at ideal elevations used to test vehicle fuel efficiency is an ideal test. Not all loops are ideal but it doesn't mean you can't rightly apply IP telephony to your organization. Learn to identify and isolate which types of calls (Intercom, local, long distance, inter-office) experience echo and whether it is the calling party or called party.

Those with multiple telephony solutions may want to ponder one telephony platform. According to a **paper** from the University of Genova, Italy- "Lack of interoperability comes from the too many differences that still persist among devices of different vendors (e.g., buffer sample size). Call quality of service still needs research to decrease the presence of echo, still the most annoying problem."

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