APPLICATION NOTE 21

Calling Party Disconnect (COD)

This white paper will insure the callnet 761 RTU
will not Tie-Up if the calling party hangs up while accessing the RTU.

Many PBX's, key systems and other Telcom equipment can sometimes be tied-up to a local Central Office line indefinitely unless precautions are taken. To prevent a line from being tied up and going to lock out, the Telecommunications industry has agreed on a method to release a call when the calling party disconnects (hangs up). This method is the Calling Party Disconnect. Some CPE providers are not aware that the local telephone company can apply an option to a line that will force the local loop open each time the calling party hangs up. Alternately the CPE provider will sometimes provide a timed disconnect to prevent a line from being tied-up.

The Callnet RTU uses both methods combined to prevent the Main Access line from becoming tied up. They are the timed released method and the calling party disconnect (COD) or open loop method.

1.   The timed released method is normally 10 minutes on the RTU. This means that if no one enters a command within 10 minutes the activity timer in the RTU will reset and cause the RTU to go on-hook (hang-up on the local line). This is basically a backup for the COD method described below.

2.   The calling party disconnect (COD) method is the main reset of the RTU that comes from the Telephone Company upon the far end (calling party) hanging up. Normally the central office switch at the Telephone Company will not send an open loop on far end hang-ups. Therefore the line must have the option Calling Party Disconnect added to the local switch. The option name in the Nortel DMS-100 is COD (Cutoff on Disconnect). If the local switch is a Lucent 5ESS, the office wide Special Feature 515 will provide an open loop. At any rate the local line can be tested with a simply DC voltmeter by measuring across the Tip & Ring. The voltage will normally be around 52.8v when the line is not in use and somewhere between 5 and 24 volts when offhook or in use. When the far end hangs up, the line should go quickly to 0 (zero) volts if COD is on the line. Since this zero voltage condition only lasts approximately 800ms, sometimes this can't be easily seen with a digital voltmeter. Therefore an older type analog voltmeter should be used to view the instantaneous rapid drop in voltage. Almost immediately the idle voltage of 52.8v will be re-applied.

In summary, all Callnet RTU's should be installed with the Main Access line (pins 1 & 2) wired to a Telephone Line that has the option Calling Line Disconnect. If the COD option is not available then the activity timer will reset the RTU within 10 minutes.

Telephone Company Switch