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ABS Tech Note: SNA•ps18 V25bis Autodialing (4/93)

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TOPIC -----

This technical note describes the use and configuration of the SNA•ps V.25bis autodial feature for both the Hayes Ultra 96 and Codex 2264 modems.

DISCUSSION -----

Introduction

The SNA•ps gateway has an autodial capability whereby a number specified in the SNA•ps configuration is automatically dialed whenever the gateway line and partner are activated. SNA•ps uses the V.25bis protocol to communicate to the modem the number to dial. V.25bis is a communication standard specifying a means of initiating communications synchronously over switched telephone networks. SNA•ps is specific in that it requires synchronous high level data link control (HDLC), addressed mode, with the EBCDIC character set, and the modem must be configured accordingly.

This technical note describes the use of this feature with both the Hayes Ultra 96 and the Codex 2264 modem.

SNA•ps SDLC line parameters

Differences exist in the way modem manufacturers implement V.25bis. For this reason, it is important to carefully review the documentation for the specific modem being used.

For instance, the Hayes Ultra 9600 modem does not allow dashes in the dial string, while the Codex 2264 does.

With both the Hayes and Codex modems, the SNA•ps SDLC line must be NRZ (no NRZI) setting. SNA•ps supports both half duplex and full duplex operation for either modem.

Modem settings

Set the Hayes dip switch 3 down and 1, 2, and 4 up, V.25bis works fine in this configuration. However, attempting to set register s94=10 using the Hayes AT commands (which according to the documentation and Hayes support staff should be functionally equivalent to setting the dip switches as above) proved unsuccessful.

For the Codex, use the settings outlined in the technical note SNA•ps06 - Modem Configuration.

The Codex modem has a parameter to specify PULSE/TONE dialing when using V.25bis. For the Hayes, use an asynchronous modem connection and send the ATT&W command to the modem in order to specify tone dialing (pulse is the default).

SNA•ps line trace

The SNA•ps line trace facility doesn't show all the V.25bis flows. Some frames returned from the modem (e.g. INV - invalid, VAL - valid, etc.) don't appear. For this reason, it is recommended to use an external line monitor (e.g. HP 4953A or equivalent) when troubleshooting V.25bis.

Other features

SNA•ps sends EBCDIC V.25bis commands. This is not a problem for modems with configurable character sets (Hayes and Codex support both EBCDIC and ASCII).

Full duplex switched connections (V.32) were successfully tested for both modems. However, in the event of problems with full duplex operation (for modems not specifically mentioned in this technical note), try re-configuring the SNA•ps gateway for half duplex operation.

Call failure responses, which the modem will send to the gateway if the call is unsuccessful, are not currently supported. For example, CFIET (busy tone detected) or CFIAB (modem aborted call) when returned from the modem will necessitate restarting the gateway. The symptom is that the SNA•ps line can not be deactivated. Further, deactivating and reactivating the SNA•ps partner will not cause the stored number to be re-dialed. The gateway must be re-started in this instance.

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