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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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