APPENDIX D

# SNA Host Configuration for SDLC Networks

This appendix outlines router implementation information related to the following topics:

- Front-end processor (FEP) configuration for SDLC links
- 3174 SDLC configuration worksheet example

Table D-1 outlines 3x74 SDLC point-to-point connection support for AGS+, MGS, and CGS DCE appliques.

**Table D-1 3x74 SDLC Point-to-Point Connection Support for AGS+, MGS, and CGS DCE Appliques**

| Controller Type | RS-232 DCE | RS-232 NRZI/DCE |
|---|---|---|
| **3274 1st Generation** | | |
| • 3274-1C | Supported | Supported |
| **3274 2nd Generation** | | |
| • 3274-21C | Not tested | Supported |
| **3274 3rd Generation** | | |
| • 3274-31C | Supported | Not tested |
| • 3274-51C | Supported | Not tested |
| **3274 4th Generation** | | |
| • 3274-41C | Need to tie DSR and DTR together on CU side, break DSR to router | Not tested |
| • 3274-61C | Same as 3274-41C | Supported |
| • Telex 274 | Supported | Not tested |
| • Telex 1274 | Supported | Not tested |
| DCA/IRMA 3274 emulation for DOS workstations | Not tested | Supported |
| DEC SNA gateway | Not tested | Supported |
| RS 6000 multiprotocol adapter | Not tested | Supported |

| Controller Type | RS-232 DCE | RS-232 NRZI/DCE |
|---|---|---|
| **3174 Subsystem CUs** | | |
| • 3174-01R<br>• | Not tested | 3174 ties pin 11 low, (-11VDC) which forces the applique into DTE mode (DCE mode is set when pin 11 is set high) |
| • 3174-03R | Same as 3174-01R | Same as 3174-01R |
| • 3174-51R | Same as 3174-01R | Same as 3174-01R |
| **3174 Establishment CUs** | | |
| • 3174-11R | Not tested | Supported |
| • 3174-13R | Same as 3174-11R | Not tested |
| • 3174-61R | Same as 3174-11R | Not tested |
| • 3174-91R | Same as 3174-11R | Supported |
| • Telex 1174 | Supported | Not tested |

# FEP Configuration for SDLC Links

Table D-2 through Table D-5 present relevant parameter definitions for an FEP configured to operate within a router-based environment. These parameters are configured as part of the system generation process associated with the Network Control Program (NCP) on an IBM host.

**Table D-2 FEP SDLC Configuration Sample GROUP Parameter Listing and Definitions**

| Parameter | Sample Value | Description and Implementation Notes |
|---|---|---|
| LNCTL | SDLC | Line control parameter that specifies link protocol |
| REPLYTO | 2 | T1 timer; this timer specifies the reply timeout value for LINEs in this GROUP |

**Table D-3 FEP SDLC Configuration Sample LINE Parameter Listing and Definitions**

| Parameter | Sample Value | Description and Implementation Notes |
|---|---|---|
| ADDRESS | (001,HALF) | The value 001 is the physical LINE interface address of the FEP. The second parameter specifies whether half- or full-duplex data transfer within the FEP is used. It also effects the DUPLEX parameter: If FULL is specified here, DUPLEX defaults to FULL and attempts to modify this characteristic are ignored. |
| DUPLEX | HALF | This parameter specifies whether the communication line and modem constitute a half-duplex or full-duplex facility. If HALF is specified, the RTS modem signal is activated only when sending data. If FULL is specified, RTS always remains active. Refer to the ADDRESS parameter in this table. |
| NRZI | YES | Encoding for this line; options are NRZ or NRZI. |

| Parameter | Sample Value | Description and Implementation Notes |
|---|---|---|
| RETRIES | (6,5,3) | Number of retries when REPLYTO expires. Entry options: (*m, t, n*) where *m* = number of retries, *t* = pause in seconds between retry cycles, and *n* = number of retry cycles to repeat. This example would retry 6 times—pausing the value of the REPLYTO between each RETRY (2 seconds per Table D-2), pause 5 seconds, and repeat this sequence 3 times for a total of 63 seconds. At the end of this period, the session is terminated. |
| PAUSE | 2 | The delay time in milliseconds between poll cycles. The cycle extends from the time NCP polls the first entry in the service order table to the moment polling next begins at the same entry. During this pause, any data available to send to the end station is sent. If end stations have data to send when polled, and the time to send the data extends beyond the PAUSE parameter, the next poll cycle begins immediately. |

**Table D-4 FEP SDLC Configuration Sample PU Parameter Listing and Definitions**

| Parameter | Sample Value | Description and Implementation Notes |
|---|---|---|
| ADDR | C1 | SDLC address of secondary end station |
| MAXDATA | 265 | Maximum amount of data in bytes (including headers) that the UP can receive in one data transfer; that is, one entire PIU or a PIU segment |
| MAXOUT | 7 | Maximum number of unacknowledged frames that NCP can have outstanding before requesting a response from the end station |
| PASSLIM | 7 | Maximum number of consecutive PIU or PIU segments that NCP sends at one time to the end station represented by this PU definition |
| PUTYPE | 2 | Specifies PU type; PU type 2 and 2.1 are both specified as PUTYPE=2 |

**Table D-5 FEP SDLC Configuration Sample LU Parameter Listing and Definitions**

| Parameter | Sample Value | Description and Implementation Notes |
|---|---|---|
| LOCADDR | 2 | LU address of devices connected to the end station PU. |

# 3174 SDLC Configuration Worksheet

Table D-6 through Table D-8 present a configuration taken from an SDLC-connected 3174-91R cluster controller. The configuration of this 3174-91R involved three specific configuration screens. Table D-6 through Table D-8 list the configuration line numbers, entries used, and descriptions of the configuration lines for each screen. Where applicable, extended descriptions are included for configuration entries that are relevant to the requirements of the routed internetwork.

**Table D-6 3174-91R Screen 1 Configuration Details**

| Configuration Line Number | Sample Value | Parameter Description and Implementation Notes |
|---|---|---|
| 98 | | Online test password |
| 99 | TKNRNG | Description field |
| 100 | 91R | Model number |
| 101 | 2 | Host attachment type:<br>• 2 = SDLC<br>• 5 = SNA (channel-attached)<br>• 7 = Token Ring network |

**Note** Configuration line items 104, 313, 317, 340, and 340 in Configuration screen 2 (refer to Table D-7) are of particular interest when configuring 3174 devices for a router-based SDLC environment. These lines specify the required SDLC address and relevant SDLC options for the cluster controller.

**Table D-7 3174-91R Screen 2 Configuration Details**

| Configuration Line Number | Sample Value | Parameter Description and Implementation Notes |
|---|---|---|
| 104 | C2 | Specifies the cluster controller SDLC address. It is the same address that you configure on the router's serial line interface. It also represents the PU address of the controller. In multipoint environments, multiple SDLC addresses may be specified on a single serial interface. |
| 108 | 0045448 | Serial number of the cluster controller |
| 110 | 0 | MLT storage support |
| 116 | 0 | Individual port assignment |
| 121 | 01 | Keyboard language |
| 123 | 0 | Country extended code page support |
| 125 | 00000000 | Miscellaneous options (A) |
| 126 | 00000000 | Miscellaneous options (B) |
| 127 | 0 0 | RTM definition |
| 132 | 0000 | Alternate base keyboard selection |
| 136 | 0000 | Standard keyboard layout |
| 137 | 0000 | Modified keyboard layout |
| 138 | 0 | Standard keypad layout |
| 141 | A | Magnetic character set |
| 150 | 0 | Token Ring network gateway controller |
| 165 | 0 | Compressed program symbols |
| 166 | A | Attribute select keypad |
| 168 | 0 | Additional extension; mode key definition |
| 173 | 0000 | DFT options |

| Configuration Line Number | Sample Value | Parameter Description and Implementation Notes |
|---|---|---|
| 175 | 000000 | DFT password |
| 179 | 000 | Local format storage |
| 213 | 0 | Between-bracket printer sharing |
| 215 | 45448 | PU identification |
| 220 | 0 | Alert function |
| 310 | 0 | Connect dataset to line operation |
| 313 | 0 | NRZ = 0; NRZI = 1 |
| 317 | 0 | Telecommunications facility:<br>• 0 = Nonswitched<br>• 1 = Switched (dial-up) |
| 318 | 0 | Full/half speed transmission; 0 = full speed, 1 = half speed. Controls speed of modem; can be used in areas where line conditions are poor |
| 340 | 0 | RTS control options:<br>• 0 = Controlled RTS (for LSD/MSD operation)<br>• 1 = Permanent RTS (improves performance)<br>• 2 = BSC (not valid for SDLC operation) |
| 365 | 0 | X.21 switched-host DTE connection |
| 370 | 0 | Maximum inbound I-frame size:<br>• 0 = 265 bytes<br>• 1 = 521 bytes (recommended for better performance) |

**Table D-8 3174-91R Screen 3 Configuration Details**

| Configuration Line Number | Sample Value | Parameter Description and Implementation Notes |
|---|---|---|
| 500 | 0 | Central Site Change Management (CSCM) unique |
| 501 | *xxxxxxxx* | Network identifier |
| 503 | *xxxxxxxx* | LU name (for CSCM) |