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	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)
		Same as 3174-01R
• 3174-03R	Same as 3174-01R	Same as 3174-01R
• 3174-51R	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.
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 six times—pausing the value of the REPLYTO between each RETRY (two seconds per Table D-2), pause five seconds, and repeat this sequence three times for a total of 63 seconds. At the end of this period, the session is terminated.

Parameter	Sample Value	Description and Implementation Notes
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: • 2 = SDLC • 5 = SNA (channel-attached) • 7 = Token Ring network

Note   Configuration line items 104, 313, 317, 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	00	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
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: • 0 = Nonswitched • 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: • 0 = Controlled RTS (for LSD/MSD operation) • 1 = Permanent RTS (improves performance) • 2 = BSC (not valid for SDLC operation)
365	0	X.21 switched-host DTE connection

Configuration Line Number	Sample Value	Parameter Description and Implementation Notes
370	0	Maximum inbound I-frame size: • 0 = 265 bytes • 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)