Tech Info Library

X.3, X.28, X.29: CCIT Parameters and Acronym Glossary (9/94)

Revised: 9/2/94
Security: Everyone

X.3, X.28, X.29: CCIT Parameters and Acronym Glossary (9/94)

===

Article Created: 30 August 1989
Article Reviewed/Updated: 2 September 1994

TOPIC ---

This article describes X.3, X.28, X.29: CCIT Parameters and Acronym Glossary.

DISCUSSION --

CCITT Recommendation X.3, X.28, and X.29 define how an asynchronous (start-stop)
terminal connects to a synchronous packet switched network. A Packet
Assembler/Disassembler (PAD) is employed to perform the X.25 functions that the
asynchronous terminal cannot manage by itself. The PAD can reside in the network
or at the DTE end. X.3 describes the parameters that the PAD uses and can be
modified by the terminal and host. There are 22 parameters defined in the CCITT
Red Book:

1) Escape from Data Transfer - if enabled, tells the PAD what key is used to
toggle between the data transfer mode and command mode.

2) Echo - decides whether characters sent from the asynchronous terminal should
be echoed.

3) Data Forwarding Signal - tells the PAD which char(s) mean that it is time to
assemble and send a packet.

4) Idle Timer Delay - if enabled, tells the PAD that if no char(s) have been
sent from the asynchronous terminal after the specified time, packetize and send
the data in the input buffer.

5) Ancillary Time Control - decides whether flow control is used for data sent
from a terminal with an attached floppy disk or data storage medium to the PAD.

6) PAD Service Signals - decides whether Service signals are to be sent to the
terminal. Service signals are sent by the PAD to the operator in response to the
commands sent by the operator.

7) Procedure on Break - defines the resulting action when the operator has hit the break key.

8) Discard Output - used together with parameter 7. Set by the X.25 computer to tell the PAD whether any data in the output buffer should be discarded or sent to the terminal.

9) Padding after CR - if enabled, specifies the number of padding characters to insert after a CR when transmitting to the terminal.

10) Line Folding - if enabled, inserts a CR after a predefined number of chars in the input buffer.

11) Terminal Data Rate - read-only parameter for the operator to view the speed of the asynchronous terminal.

12) Flow control of the PAD - If enabled, allows the terminal to control the data flow from the PAD.

13) Linefeed Insertion - if enabled, tells the PAD when to insert a linefeed after CR.

14) Linefeed Padding - if enabled, specifies the number of padding character to insert after an LF is sent to the terminal.

15) Editing - defines whether editing of the data in the PAD input buffer, while in data transfer mode, is permitted. Parameter 16, 17, and 18 define which keys are to be used for editing.

16) Character Delete - defines which character is used to mean char delete.

17) Line Delete - defines which character is used to mean line delete.

18) Line Display - defines which character is used to display a line of text. Useful when the user is editing text.

19) Editing, PAD Service Signals - defines the character the PAD will respond with when it receives a char delete or line delete from the terminal.

20) Echo mask - specifies which characters are not to be echoed.

21) Parity Treatment - defines the manner in which the PAD treats the parity bit, bit 8.

22) Page Wait - if enabled, defines the number of LFs the text can contain before the PAD waits for a signal from the terminal to proceed with data transmission. Allows time for a new sheet of paper to be fed into a printer or to store received chars on a diskette.

X.28 defines the interface, mainly the command language, between the asynchronous terminal and PAD. These commands enable the following functions:

    * Set up and clear of a virtual call
    * Select a profile that suits the terminal
    * Modify the X.3 values
    * Read the values of the X.3 parameters
    * Send an Interrupt packet
    * Query the status of a virtual call
    * Request reset of a virtual call

X.29 is the protocol between the PAD and the X.25 terminal/host. PAD messages
are used by the X.25 host to set or read X.3 parameters in the PAD and to
receive an indication that the terminal has sent a BREAK and an INVITATION TO
CLEAR.

Acronym Glossary

ACK - Acknowledgement

ANSI - American National Standards Institute

ATDM - Asynchronous time division multiplexing

BER - Bit error rate

BOP - Bit-oriented protocol

BPS - Bits per second

BSC - Binary synchronous communication

CCITT - International Telegraph and Telephone Consultative Committee

CNS - Communication network systems

CS - Circuit switching

DCE - Data Circuit-Terminating Equipment

DDCMP - Digital data communication message protocol

DNIC - Data network identification code

DSU - Data service unit

DTE - Data Terminating Equipment

FDM - Frequency divsion multiplexing

FDX - Full duplex

FIFO - First-in-first-out

FM - Frequency modulation

FSK - Frequency shift keying

HDLC - High-level Data link control

HDX - Half-duplex

IPSS - International packet switching service

ISO - International Standards Organization

LAPB - Link access procedure, balanced

LCN - Logical channel number

LIFO - Last-in-first-out

MS - Message switching

MTBF - Mean time between failures

NAK - No acknowledgement

NCC - Network Control Center

NMC - Network management center

NPA - Numbering plan area

PABX - Private automatic branch exchange

PDN - Public data network

PPS - Private packet switching

PS - Packet switching

PSK - Phase shift keying

PTT - Postal, Telephone, and Telegraph

RJE - Remote job entry

SDLC - Synchronous data link control

S/F - Store and forward

SNA - System network architecture

TCO - Telenet central office

TDM - Time division multiplexing

TELCO - Telephone company

TP - Telenet processor

VAN - Value-added network

VC - Virtual Connection

WATS - Wide-Area Telecommunication Service

Article Change History:
02 Sep 1994 - Reviewed.

Support Information Services

Tech Info Library Article Number:4311