INTERNATIONAL TELECOMMUNICATION UNION

ITU-T Q.279

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SPECIFICATIONS OF SIGNALLING SYSTEM No. 6

SIGNALLING LINK

DRIFT COMPENSATION

ITU-T Recommendation Q.279

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.279 was published in Fascicle VI.3 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

6.9 DRIFT COMPENSATION

6.9.1 *General*

The difference in clock rates at the two terminations of a signalling link will result in a drift between the bit streams transmitted in the two directions.

The slower terminal will find at some stage that it has two blocks awaiting acknowledgement. When this occurs, only the second (later block) should be acknowledged (*skipping* of an ACU). On receipt of the acknowledgement of the second block, the sending terminal will initiate the transmission of all messages in the first block as if they were received in error before proceeding with any necessary retransmission relating to the second block.

Moreover, the faster terminal will find at some stage that it has no complete new block to acknowledge in the ACU it is about to transmit. In this case, the acknowledgement fields for the indicators and block number (bits 4 to 17) from the previous block are repeated (*repeating* of an ACU). This ACU will be recognized to be a repetition by the cyclic number (bits 15 to 17) and should be ignored by the slow terminal (see Recommendation Q.259, § 3.3.2).

6.9.2 *Drift compensation hysteresis*

When the time difference between the moment at which the second block is received and the moment at which the acknowledgement should be sent is very small (e.g. less than one signal unit), drift compensation may be required at frequent intervals. In order to avoid alternative skipping and repeating ACUs too frequently, it is recommended that a certain interval elapses between the opposite decisions *to skip* and *to repeat* ACUs (drift compensation hysteresis). This interval must be sufficiently long to avoid unnecessary drift compensations, but short enough that acknowledging of the concerned block is not delayed too much.