Basic mode control procedures — Conversational information message transfer

First edition — 1973-02-15

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2629 was drawn up by Technical Committee ISO/TC 97, *Computers and information processing.*

It was approved in September 1972 by the Member Bodies of the following countries :

Australia	Germany	South Africa, Rep. of
Belgium	Ireland	Spain
Brazil	Italy	Sweden
Canada	Japan	Switzerland
Czechoslovakia	Netherlands	Thailand
Denmark	New Zealand	United Kingdom
Egypt, Arab Rep. of	Portugal	U.S.A.
France	Romania	U.S.S.R.

No Member Body expressed disapproval of the document.

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0 INTRODUCTION

This International Standard defines an addition to the basic mode control procedures for data communication systems and allows the reversal of information transfer while remaining in Phase 3 (information transfer) of the basic mode.

Although applicable to many types of terminals, this type of operation is particularly adaptable to inquiry/response systems.

In some systems, the security of the data link operation may be obtained by the use of block checking and ACK-NAK supervisory sequences.

To preserve a high degree of security, it is recognized that numbering schemes (forward and/or backward) can also be used.

In other systems utilizing less sophisticated terminals, supervisory information and control information may be contained within the message and/or handled by operator procedures. These systems are not covered by this International Standard.

1 SCOPE AND FIELD OF APPLICATION

1.1 This International Standard defines the means by which a data communication system operating according to the basic mode control procedures defined in ISO/R 1745 can interchange information messages in a fast conversational manner and where the operator plays a significant role in the operation of the terminal.

1.2 This International Standard extends Phase 3 (information transfer) as defined in ISO/R 1745, to allow two stations connected by a data link to reverse their master/slave status, thereby reversing the direction of the information transfer, without leaving Phase 3.

1.3 During one conversation process considered here, only two stations are involved at one time. Conversation with any other station requires termination of the existing data link and establishment of another data link.

1.4 This procedure applies to the following system configurations : point-to-point, centralized multipoint.

2 REFERENCE

ISO/R 1745, *Basic mode control procedures for data communication systems.*

3 CONVERSATION RULES (See Figure)

3.1 The positive acknowledgement can be replaced by the transfer of an information message in the opposite direction.

3.2 The information message can be sent in lieu of the positive acknowledgement only when the received message is terminated by ETX (or DLE.ETX); not ETB (DLE.ETB).

3.3 The opening character of the returned message (i.e. STX, SOH or DLE.STX, DLE.SOH) shall be considered as having the additional meaning of positive acknowledgement.

3.4 If there is no information message to be transferred in the opposite direction after the received message is correctly received, the positive acknowledgement shall be used (see Note 2).

3.5 An information message shall never be sent instead of a negative acknowledgement, except as indicated in Note 2.

3.6 Termination is initiated by the station with link responsibility.

NOTES

1 Typical applications require one reversal of transmission only. If multiple reversals occur, the error protection capabilities may be degraded. If no forward numbering scheme is used, consecutive reversals may lead to loss or duplication of messages or to conflicting situations (for example master/slave decision). In these cases, operator intervention may be required.

2 In systems which use backward supervisory sequences, ACK and NAK are used for the acknowledgements. In systems where ACK and NAK are not used, acknowledgement information may be included in the reply messages.