ITU

INTERNATIONAL TELECOMMUNICATION UNION

ITU-T   U.70

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

TELEGRAPH SWITCHING

INTERWORKING BETWEEN NEW INFORMATION SERVICES AND TELEX

TELEX SERVICE SIGNALS FOR TELEX TO TELETEX INTERWORKING

ITU-T Recommendation U.70

(Extract from the *Blue Book*)

NOTES

1   ITU-T Recommendation U.70 was published in Fascicle VII.2 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.

Recommendation U.70

TELEX SERVICE SIGNALS FOR
TELEX TO TELETEX INTERWORKING

(Malaga-Torremolinos, 1984)

The CCITT,

considering

(a) that a basic interworking on international connections will be at 50 bauds using an international telex network and that any telex subscriber can call conversion facilities in various countries;

(b) that Recommendation F.201 specifies:

− that a validation of a called Teletex terminal is mandatory. The validation is performed either by a direct validation call or by a data base access;

− that if a message delivery to a Teletex terminal fails in the case of interworking with two-stage selection procedure, the conversion facility should send a non-delivery notification to a telex terminal;

(c) that Recommendation S.90 specifies Teletex requirements for interworking with the telex service and Recommendations S.62 and S.70 specify control procedures and a network-independent basic transport service for a Teletex;

(d) that Recommendation X.96 specifies call progress signals in a public data network,

unanimously declares the following view

1   Scope

This Recommendation defines service signals which are to be sent back to the telex terminal in the event of unsuccessful validation for called Teletex terminal addresses, and service signals of the last delivery attempt to the Teletex terminal which are to be sent to the telex terminal as a part of non-delivery notification.

Service signals for unsuccessful validation call and non-delivery notification

Abnormal conditions			Service signals
Lower Level Protocols	PSDN and CSDN	Call-progress signals	
		No connection	**NC**
		Selection signal transmisssion error	**NC**
		Local procedure error	**NC**
		Network congestion	**NC**
		Invalide facility request	**NC**
		Change number	**NCH**
		Not obtainable	**NP**
		Access barred	**NA**
		Incompatible user class of service	**NA**
		Incompatible destination	**NC**
		Out of order	**DER**
		Network fault in local loop	**DER**
		DCE power off	**ABS**
		Uncontrolled not ready	**DER**
		Controlled not ready	**ABS**
		Number busy	**OCC**
		Call information service	**INF**
		Remote procedure error	**DER**
		Long-term network congestion	**NC**
		DTE originated	**DER**
		Carrier-off	**NC**
		No response (time-out)	**DER**
Lower Level	PSTN	Carrier off	**NC**
		Ring-back tone (No reply) [a]	**ABS**
		No dial tone [a]	**NC**
		Busy [a]	**OCC**
		Equipment engaged [a]	**NC**
		Number unobtainable [a]	**NP**
		No tone [a]	**NP**
Higher Level Protocols	Transport Layer	Transport Connection Clear (TCC) receipt	
		Reason not specified	**DER**
		Terminal occupied	**OCC**
		Terminal out of order	**DER**
		Address unknown	**NP**
		Transport Block Reject (TBR) receipt	
		Reason not specified	**DER**
		Function not implemented	**DER**
		Invalid block	**DER**
		Invalid parrameter	**DER**
		Illegal command/response receipt	**DER**
		No response	**DER**
	Session Layer	Incorrect terminal identifier in Response Session Start Positive (RSSP)	**NP**
		Response Session Start Negative (RSSN) receipt	
		No specific reason stated	**DER**
		Memory full or out of recording paper	**DER**
		Explicit text message	**DER**
		Command Session Abort (CSA) receipt	
		Local terminal error	**DER**
		Unrecoverable procedural error	**DER**
		Reason not defined	**DER**
		Illegal command/response receipt	**DER**
		No response	**DER**
	Document Layer [b]	Response Document Page Boundary Negative (RDPBN) receipt	
		No specific reason stated	**DER**
		Memory full or out of recording paper	**DER**
		Sequence error	**DER**
		Local terminal error	**DER**
		Unrecoverable procedural error	**DER**
		Response Document General Reject (RDGR) receipt	**DER**
		Illegal command//reponse receipt	**DER**
		No response	**DER**

a) It is recognized that these abnormal conditions can be detected if the automatic calling procedures incoroporate detection facilites.

b) Optional (if negotiation is not carried out).

PSDN   Packed switched data network
CSDN   Circuit switched data network
PSTN   Public switched telephone network

2 Principles

The following principles should he taken into consideration:

2.1 Call progress signals arriving from the Teletex network will be converted without changing their original meaning as far as possible.

2.2 A faulty condition between the Teletex network and the conversion facility will be regarded as a faulty condition within the network.

2.3 A faulty condition between the Teletex network and the Teletex terminal will be regarded as a fault of the terminal.

3 Telex service signals

In general, telex service signals specified in Recommendation F.60 should be used. However, the telex service signals listed below will be used in the following circumstances:

3.1 If the format of the Teletex address part is incorrect, the service signal **NP** will be returned.

3.2 If the direct validation call is unsuccessful, the conversion facility will transmit the service signals specified in Table 1/U.70 to the telex terminal.

3.3 If the validation by data base access is unsuccessful, the conversion facility will transmit the service signals specified in Table 2/U.70.

3.4 If the message delivery to the Teletex terminal is unsuccessful, the conversion facility will transmit the service signals of the last delivery attempt which are specified in Table 1/U.70, as a part of non-delivery notification to the telex terminal.

TABLE 2/U.70

**Service signals for unsuccessful
validation by data base access**

Abnormal conditions	Service signal
Unsuccessful results	**NP**

Note – In addition to the case "the number does not exist", other cases, for example, "the number is being temporarily prohibited" or "the number is out of order", might be considered as abnormal conditions. But at this moment such conditions and the service signals corresponding to them are for further study.