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INTERWORKING OF SIGNALLING SYSTEMS

**INTERWORKING OF SIGNALLING SYSTEMS -
INTERWORKING REQUIREMENTS FOR NEW
SIGNALLING SYSTEMS**

ITU-T Recommendation Q.607

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation Q.607 was published in Fascicle VI.6 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 Q.607

7 INTERWORKING REQUIREMENTS FOR NEW SIGNALLING SYSTEMS

7.1 Treatment of new signals in another signalling system

In order to facilitate the interworking between new signalling systems and existing ones, it is desirable to elaborate rules to be taken into account when specifying the new signalling system(s). Since compatibility between all CCITT Signalling Systems must be ensured, any newly developed system has to meet the following requirements with regard to interworking:

- a) new signalling systems should be capable of processing all interworking events specified for the existing signalling systems without losing or adding information elements.

This is best achieved by the concept of transparency, whereby the signals of all existing systems have a unique translation into the new system and back again. In this way a tandem connection via an interposed link employing the new signalling system will neither add nor subtract from the information transfer that would otherwise have occurred had the new signalling system not been present;

- b) newly developed systems should not lead to any modification to the specifications covering the present signalling systems except that the translation of new interworking events arising from the meanings of new signals in the new system will need to be defined for the existing signalling systems.

In order that the new signals should cause the minimum loss or gain of information when interworking with existing signalling systems, any new signals should, if possible, not contain any information elements already existing. Hence it is better that these new signals convey only a single meaning rather than a multiple meaning as occurs in some existing systems (e.g. Signalling System R2 signal I-14 corresponds to FITE 8 which combines the elements of FITE 3 and FITE 5). Therefore, only one new information element will be associated with the new signal and only one new FITE or BITE will be needed.

In some cases the new signal will be translated into a presently defined signal of an existing system and hence will cause the addition or, more often, the loss of information. In some cases, no electrical signal being available, all the information may be lost or a tone may need to be used. In the case of Signalling Systems R2, No. 6 and No. 7, some reserved signals exist within the capacity of these systems and such signals may be introduced to enhance the signalling system and provide an interworking capability.

However it should be borne in mind that with such existing systems, it may not be easy or desirable to modify existing equipment, and even if such modification were possible, in the transitional period the interworking of existing and enhanced signalling equipment of the same system must also be considered.

In view of the difficulties of interworking with existing signalling systems, new features of signals should only be introduced in a new system if there are good operational reasons for doing so.

7.2 Reserve for national use

In practice, provision of appropriate spare signalling capacity in a new system reserved for national/regional use cannot be avoided. In such a case, precautions must be taken to prevent signals with an individual national meaning from entering the international network.

One general objective of a new signalling system should be to meet also the national requirements in order to avoid national versions of a given signalling system as far as possible.

7.3 *Unambiguous specifications*

After a clear specification of a new feature to be included in a signalling system, the related signalling procedures should be specified in a unique and standard form. The same applies to the signals involved.

The designation of signals of different signalling systems, which carry the same information, should be the same.

7.4 *Escape codes*

It is obvious that appropriate spare capacity should be provided in order to cope with future demands. One way of doing so is the provision of escape codes.