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SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

SIGNALLING SYSTEM No. 7 – SIGNALLING CONNECTION CONTROL PART (SCCP) PERFORMANCE

ITU-T Recommendation Q.716

(Previously “CCITT Recommendation”)

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.716 was revised by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

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Recommendation Q.716**SIGNALLING SYSTEM No. 7 – SIGNALLING CONNECTION
CONTROL PART (SCCP) PERFORMANCE***(Melbourne, 1988; modified at Helsinki, 1993)***1 General****1.1 Overview**

The Signalling Connection Control Part (SCCP) of Signalling System No. 7 (SS No. 7) is designed as a general message transport system common to the various sub-systems which are using its services. The SCCP is defined in Recommendations Q.711-Q.714.

SCCP must satisfy the requirements of these various sub-systems and therefore the most stringent sub-system requirements are considered when defining a value for a performance parameter (most stringent at the time of the specification). To this end, the requirements of the ISDN User Part (ISUP), the OMAP, and the dialogue between an exchange and a Service Control Point (using the Transaction Capabilities), in particular, were investigated. It is assumed that a SCCP which satisfies the requirements of these users mentioned above will also meet those of future users.

SCCP performances are defined by parameters of two kinds:

- quality of service parameters as seen by a user of the SCCP;
- internal parameters which are not seen by the user but which contribute to a quality of service parameter, for example, the transfer delay in a relay point which contributes to the total transit delay of messages as seen by the user.

The definitions of all these parameters are presented in clause 2. Then the values allowed for the internal parameters are defined in clause 3. Values for the quality of service parameters are given in Recommendation Q.709 which deals with HSRCs.

Consideration is also given in clause 4 to longer messages and other factors that could affect the performance of the SCCP.

1.2 Definitions

Two concepts must be defined when dealing with SCCP performances: SCCP route and SCCP relation. These concepts are similar to the one defined for the MTP (i.e. signalling route and signalling relation). They are defined as follows:

SCCP route: An SCCP route is composed of an ordered list of nodes where the SCCP is used (origin, relay(s), destination) for the transfer of SCCP messages from an originating SCCP user to the destination SCCP user.

SCCP relation: An SCCP relation is a relation between two SCCP users which allows them to exchange data over it. An SCCP relation can consist of one or several SCCP routes.

Five types of nodes where SCCP functions are involved are defined as follows:

originating node: Origin of a UDT message or of a signalling connection.

destination node: Destination of a UDT message or of a signalling connection.

relay point: Signalling point where the translation functions of the SCCP for connectionless classes are implemented.

relay point without coupling: Signalling point where the relay functions of the SCCP connection oriented classes, but without the coupling of signalling connection sections function, are implemented.

relay point with coupling: Signalling point where the relay functions of the SCCP connection oriented classes, including the coupling of signalling connection sections function, are implemented.