Recommendation B.17[1)]

ADOPTION OF THE CCITT SPECIFICATION AND DESCRIPTION LANGUAGE (SDL)

The CCITT,

considering

(a) that there is a need for a common method or procedure for the unambiguous specification and description of the behaviour of telecommunication systems;

(b) that a specification of a system is the description of its required behaviour;

(c) that a description of a system is the description of its actual behaviour;

(d) that a universal method for specification and description should bring economic benefits;

(e) that the CCITT has adopted such a method called the Specification and Description Language (SDL) as described in CCITT Recommendations Z.100 to Z.104,

recommends

(1) the adoption within the ITU of the use of the CCITT Specification and Description Languae (SDL) for unambiguous specification and description of telecommunication systems (see Annex A);

(2) that the possibilities for application of SDL in areas of common interest for the purposes of standardization be brought to the attention of other international bodies (e.g. the IEC and ISO) for their consideration.

ANNEX A

(to Recommendation B.17)

Introduction to SDL

The purpose of recommending SDL is to provide a language for unambiguous *specification* and *description* of the behaviour of telecommunications *systems*. The *specifications* and *descriptions* using SDL are intended to be formal in the sense that it is possible to analyse and interpret them unambiguously.

The terms *specification* and *description* are used with the following meaning:

— a *specification* of a *system* is the description of its required *behaviour*, and

— a *description* of a *system* is the description of its actual *behaviour*.

SDL also provides structuring concepts which allow a *system* to be partitioned so that it can be defined, developed and understood one part at a time.

These concepts are of value both initially in specifying a *system,* when different aspects can be independently dealt with, and later in describing a *system,* when the description structures should match the *system* structure.

SDL gives a choice of the use of two different forms when representing SDL descriptions; a graphic representation (SDL/GDR) and a textual phrase representation (SDL/PR). As they are both specific representations of the same SDL semantics, they are equivalent from a semantic point of view.

Objectives

The general objectives when defining SDL have been to provide a language that:

— is easy to learn, use and interpret in relation to the needs of an operating organization;

— provides unambiguous specifications and descriptions for ordering and tendering;

— may be extended to cover new developments;

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1) A similar text will be submitted to the CCIR as revision of Recommendation 664.

— is able to support several methodologies of system specification and design, without assuming any one of these.

Scope

The main are of application for SDL is the description of the behaviour of aspects of telecommunications *systems*. Applications include:

— call processing (e.g. call handling, telephony signalling, metering) in stored programme control (SPC) switching systems;

— maintenance and fault treatment (e.g. alarms, automatic fault clearance, routine tests) in general telecommunications systems;

— system control (e.g. overload control, modification and extension procedures);

— data communication protocols.

SDL can of course also be used for the description of any behaviour capable of being described using a discrete model, i.e. communicating with its environment by discrete messages.

A description of SDL is given in CCITT Recommendations Z.100 to Z.104.