

# INTERNATIONAL TELECOMMUNICATION UNION

## ITU-T RECOMMENDATION SUMMARY

**Rec. No. :** E.862

**Title :** Dependability planning of telecommunication networks

**Study Group :** II - Network Operation

**Version :** Revised

**Date of adoption :** 1992

Notes :

Recommendation E.862 is concerned with models and methods for dependability planning, operation and maintenance of telecommunication networks, and the application of these methods to the various services in the international network.

Dependability planning may be accomplished by using essentially two different methods.

### **Intuitive method**

The level of dependability is determined by making a synthesis of objectives and procedures presently used. It is a pragmatic method in absence of an analytical method or in the case when necessary data for a thorough analysis is not available.

This method reflects the present status, but is inconsistent in achieving what Administrations actually want to attain: the most economic level of dependability taking into account customer needs and inconvenience.

### **Analytical method**

The analytical method is based on principles defining the object of dependability planning. The principles are realized through a quantitative model. The level of dependability is deduced by applying the model, taking into account all relevant factors in each planning case.

- Basic principle – The main object of dependability planning is to find a balance between the customers' needs for dependability and their demand for low costs.
- Model – Fault consequences are expressed in terms of money and are included as additional cost factors in planning and cost-optimization. The cost factor reflects the customers' experience of faults in the network, quantified in terms of money, as well as the Administration's costs for lost traffic revenue and corrective maintenance.
- Application – The Administration is provided with a method to integrate dependability as a natural part of planning, taking local information from the actual

planning case into account. This method enables the preparation of simplified planning rules.

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