

INTERNATIONAL TELECOMMUNICATION UNION

ITU-T RECOMMENDATION SUMMARY

Rec. No. : E.525

Title : Designing networks to control grade of service

Study Group : II - Network Operation

Version : Revised

Date of adoption : 1992

Notes :

Network design may have two objectives to control grade of service (GOS). One is to provide an overall GOS for all traffic offered to the network. This can be achieved by the choice of a routing scheme that reduces the effect of adverse network conditions. Routing schemes that allow more flexible routing choices generally provide greater resilience, especially in the case of forecast errors or focused overload, than traditional hierarchical routing methods.

The second objective is to control the grade of service for certain streams of traffic by restricting the access to circuit groups. Several service protection methods are available, with the common feature that they may reject certain call attempts when the considered circuit group has little idle capacity. Service protection is generally used in alternative routing networks to restrict overflow traffic, but can also be used to give priority service to one class of traffic over another.

Failure or overload conditions may require temporary changes to service protection parameters. This is considered to be network management action which is described in the E.400-Series Recommendations.

Recommendation E.525 comprises the following issues:

Applications of service protection methods:

Cluster and end-to-end engineering concepts;

Appropriate dimensioning algorithms.

The choice between available methods will generally depend on performance characteristics and ease of implementation.

Flexible and/or dynamic routing schemes can be viewed as “network level” methods. Service protection methods can be viewed as “circuit group level” methods. It is possible to provide methods on one of the levels only or to provide both levels in conjunction with each other.

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