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TELEPHONE NETWORK AND ISDN QUALITY OF SERVICE, NETWORK MANAGEMENT AND TRAFFIC ENGINEERING

GOS PARAMETERS AND TARGET GOS OBJECTIVES FOR IN SERVICES

ITU-T Recommendation E.724

(Previously "CCITT Recommendation")

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). 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, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

ITU-T Recommendation E.724 was prepared by ITU-T Study Group 2 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 19th of February 1996.

NOTE

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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SUMMARY

To ensure the effective deployment of Intelligent Network (IN) capabilities, performance objectives must be established to serve as a basis for traffic engineering and related network planning. This Recommendation defines performance parameters for a range of IN services and provides corresponding Grade of Service (GOS) performance objectives. Currently only one such objective, namely incremental post-selection delay is addressed.

For the successful introduction of new service capabilities provided by intelligent networks, network planning and engineering should be based on the fundamental requirement of providing acceptable service to the end user. Reasonable grade of service performance objectives have been developed by understanding user expectations and typical implementations of representative IN services.

The Recommendation introduces the notion of service classes that are defined on the basis of end user requirements.

Performance requirements during periods of network congestion are for further study.

Recommendation E.724

GOS PARAMETERS AND TARGET GOS OBJECTIVES FOR IN SERVICES

(Geneva, 1996)

1 Scope

This Recommendation is limited in scope to cover Capability Set 1 (CS-1). Extensions to cover further evolution of IN concepts are for further study. Before using this Recommendation for applications other than CS-1, the user should check that it is appropriate to do so.

Appropriate performance objectives in the IN environment should carefully balance user expectations and technology capabilities. The latter are largely influenced by factors such as reference connections, signalling message flows, nodal processing times and queueing delays associated with particular service-deployment scenarios. Expectations of the end user in an IN environment are based on assessments of typical user tolerance to various delays and categories of unavailability - again for particular services or service classes.

2 References

The following Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated are valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of currently valid ITU-T Recommendations is regularly published.

Recommendations Q.1202, Q.1211, Q.1214, Q.1218, Q.1219, E.492, E.721, E.723, E.733, Q.706, Q.716 and Q.766.

3 Definitions

For the purposes of this Recommendation, the following definitions apply:

3.1 comparable call: A call which does not invoke IN services and which is selected by the network operator as being similar in user expectation, with respect to the post-selection delay, to the call(s) invoking the IN service(s) under consideration. Where there are no calls with similar user expectation, the network operator may select an average call as the comparable call.

3.2 incremental post-selection delay: This parameter is the increase in the post-selection delay (as defined in Recommendation E.721) when IN services are invoked on a call. For calls involving the setting up of voice connection paths beyond the usual expectation for a call type (for example, as the result of a call forwarding action triggered by the called number) the IN processing delay includes any extra delay in setting up such a path. Calculation of this value for calls involving a user interaction with the IN service logic is for further study.

3.3 IN services: Services implemented using IN structured networks.