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SERIES E: OVERALL NETWORK OPERATION,
TELEPHONE SERVICE, SERVICE OPERATION AND
HUMAN FACTORS

Quality of service, network management and traffic
engineering – Traffic engineering – ISDN traffic
engineering

Methods for dimensioning resources in Signalling System No. 7 networks

ITU-T Recommendation E.733

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION E.733

METHODS FOR DIMENSIONING RESOURCES IN SIGNALLING SYSTEM No. 7 NETWORKS

Summary

This Recommendation describes the methods for dimensioning resources in Signalling System No. 7 networks. It defines the reference traffic to be used for dimensioning and then describes the dimensioning objectives and dimensioning methods for links and nodes in signalling networks. It considers methods for dimensioning signalling links and nodes in Signalling System No. 7 networks.

Source

ITU-T Recommendation E.733 was revised by ITU-T Study Group 2 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 9th of November 1998.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the 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.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation the term *recognized operating agency (ROA)* includes any individual, company, corporation or governmental organization that operates a public correspondence service. The terms *Administration*, *ROA* and *public correspondence* are defined in the *Constitution of the ITU (Geneva, 1992)*.

INTELLECTUAL PROPERTY RIGHTS

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As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Recommendation E.733**METHODS FOR DIMENSIONING RESOURCES IN
SIGNALLING SYSTEM No. 7 NETWORKS***(revised in 1998)***1 Scope**

This Recommendation considers methods for dimensioning signalling links and nodes in Signalling System No. 7 networks. Certain cases (e.g. due to new services) involving segmentation of long messages or mixtures of very long and short messages require further study to give good approximations for signalling link dimensioning purposes.

2 References

The following ITU-T 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 were 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 the currently valid ITU-T Recommendations is regularly published.

- ITU-T Recommendation E.492 (1996), *Traffic reference period*.
- ITU-T Recommendation E.500 (1998), *Traffic intensity measurement principles*.
- CCITT Recommendation E.713 (1992), *Control plane traffic modelling*.
- CCITT Recommendation E.721 (1991), *Network grade of service parameters and target values for circuit-switched services in the evolving ISDN*.
- CCITT Recommendation E.723 (1992), *Grade-of-service parameters for Signalling System No. 7 networks*.
- ITU-T Recommendation E.734 (1996), *Methods for allocating and dimensioning Intelligent Network (IN) resources*.
- ITU-T Recommendation Q.703 (1996), *Signalling link*.
- ITU-T Recommendation Q.706 (1993), *Message transfer part signalling performance*.
- ITU-T Recommendation Q.709 (1993), *Hypothetical signalling reference connection*.
- ITU-T Recommendation Q.716 (1993), *Signalling Connection Control Part (SCCP) performance*.
- ITU-T Recommendation Q.766 (1993), *Performance objectives in the integrated services digital network application*.

3 Definitions

This Recommendation defines the following terms:

3.1 queueing delay: The queueing delay of a signalling message at the transmit queue of a signalling link is defined as the time from when the last bit of the message is placed in the transmit