



INTERNATIONAL TELECOMMUNICATION UNION

CCITT

E.505

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

TELEPHONE NETWORK AND ISDN

**QUALITY OF SERVICE,
NETWORK MANAGEMENT AND TRAFFIC
ENGINEERING**

**MEASUREMENTS OF THE PERFORMANCE
OF COMMON CHANNEL SIGNALLING
NETWORK**

Recommendation E.505



Geneva, 1992



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FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT 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 Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation E.505 was prepared by Study Group II and was approved under the Resolution No. 2 procedure on the 16th of June 1992.

CCITT NOTES

- 1) In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication Administration and a recognized private operating agency.
- 2) A list of abbreviations used in this Recommendation can be found in Annex A.

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Recommendation E.505

MEASUREMENTS OF THE PERFORMANCE OF COMMON CHANNEL SIGNALLING NETWORK

1 Introduction

In this Recommendation, measurements relating to CCITT Signalling System No. 7 are specified. The specification of measurements for CCITT Signalling system No. 6 has not been defined in such a structured way as for CCITT Signalling System No. 7. However, some of the measurements indicated for CCITT Signalling System No. 7 may also be valid for CCITT Signalling System No. 6 (albeit with slight variation in meaning), and may be used for the network operations functions of the relevant networks.

Recommendation Q.752 establishes the general requirements for measurements to support operation, administration and maintenance of CCITT No. 7 signalling networks. The focus of the measurements in this Recommendation is on operation and administration of CCITT No. 7 signalling networks, i.e. for traffic engineering, network management and Quality of Service functions.

Recommendation Q.752 provides measurements requirements in the form of tables, whereas this Recommendation provides measurements according to the traffic measurement model in § 2 of Recommendation E.502, which indicates the *object* on which the measurements are performed and the *entities* that describe the quantities for which the data collection must be performed.

This Recommendation is intended to be supportive of and complementary to Recommendation Q.752. Most of this Recommendation is considered as the objective for traffic measurements which relate to network operations functions of planning, dimensioning and operational management of common channel signalling system networks, whereas Recommendation Q.752 provides the basic Signalling System No. 7 measurements and monitoring in support of this objective.

The measurements indicated in this Recommendation are considered appropriate for a full developed signalling network using a mesh network configuration. A selected sub-set of measurements may be sufficient for other applications.

2 Conceptual signalling measurement model

The main traffic flows in an exchange are shown in Figure 4/E.502. The conceptual model for CCITT No. 7 network signalling flows and measurements is shown in Figure 1/E.505 and is related to Figure 4/E.502.

In the model, the totality of signalling traffic is exchanged between the Message Transfer Part (MTP) and the relevant User Parts. Each User Part, in turn, exchanges signalling messages with the exchange. Logical reference points for measurement are indicated and numbered in Figure 1/E.505.

The measurement types in § 3 are associated with the relevant numbered reference points. It should be noted that all the reference points are not associated with measurement types at this time, but may be related to additional measurement types which may be specified in the future.

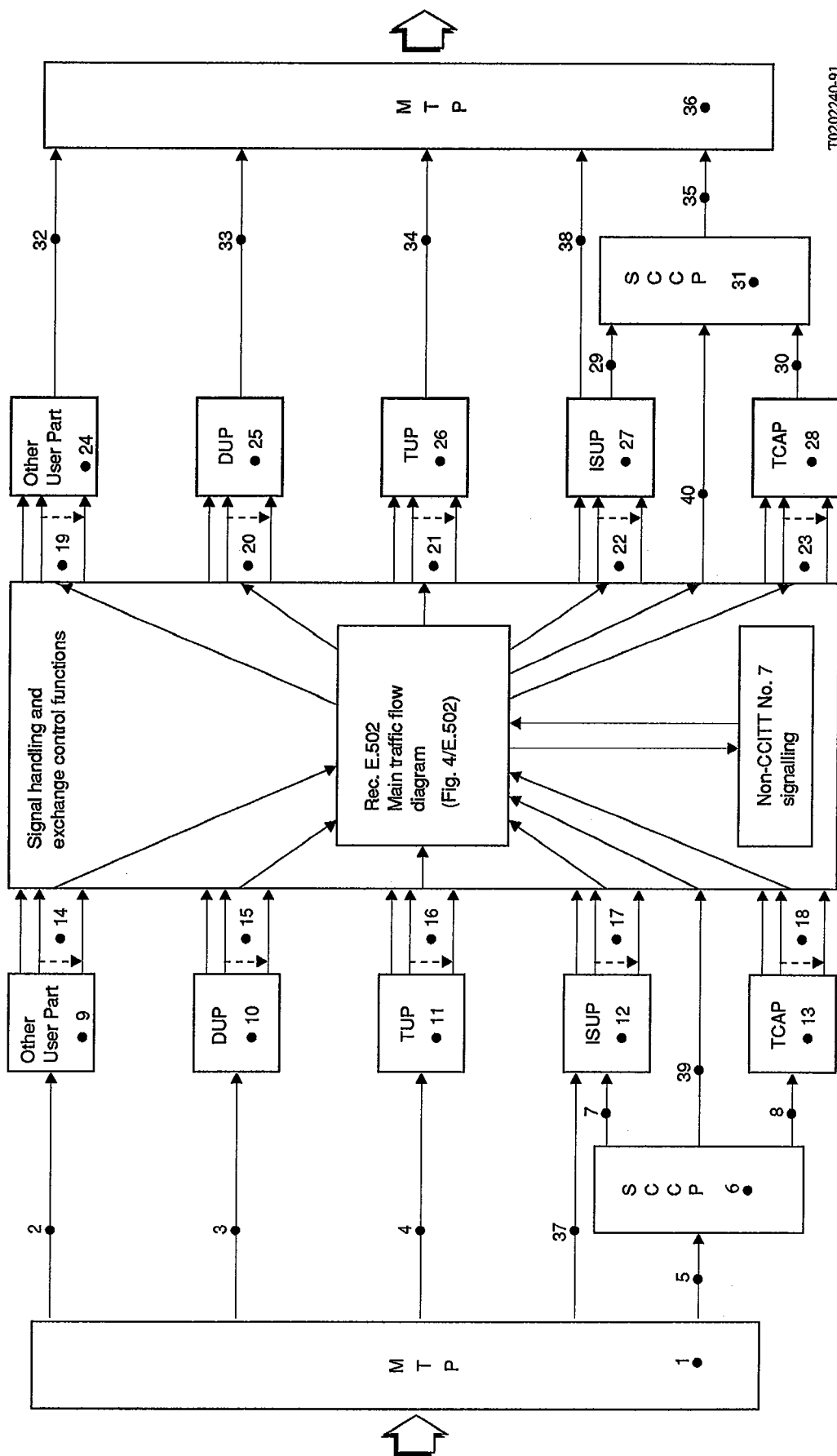


FIGURE 1/E.505

CCITT No. 7 conceptual signalling measurement model