



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

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

Traffic engineering – Measurement and recording of traffic

Overview of Recommendations on traffic engineering

ITU-T Recommendation E.490.1

ITU-T E-SERIES RECOMMENDATIONS

OVERALL NETWORK OPERATION, TELEPHONE SERVICE, SERVICE OPERATION AND HUMAN FACTORS

INTERNATIONAL OPERATION	
Definitions	E.100–E.103
General provisions concerning Administrations	E.104–E.119
General provisions concerning users	E.120–E.139
Operation of international telephone services	E.140–E.159
Numbering plan of the international telephone service	E.160–E.169
International routing plan	E.170–E.179
Tones in national signalling systems	E.180–E.189
Numbering plan of the international telephone service	E.190–E.199
Maritime mobile service and public land mobile service	E.200–E.229
OPERATIONAL PROVISIONS RELATING TO CHARGING AND ACCOUNTING IN THE INTERNATIONAL TELEPHONE SERVICE	
Charging in the international telephone service	E.230–E.249
Measuring and recording call durations for accounting purposes	E.260–E.269
UTILIZATION OF THE INTERNATIONAL TELEPHONE NETWORK FOR NON-TELEPHONY APPLICATIONS	
General	E.300–E.319
Phototelegraphy	E.320–E.329
ISDN PROVISIONS CONCERNING USERS	E.330–E.349
INTERNATIONAL ROUTING PLAN	E.350–E.399
NETWORK MANAGEMENT	
International service statistics	E.400–E.409
International network management	E.410–E.419
Checking the quality of the international telephone service	E.420–E.489
TRAFFIC ENGINEERING	
Measurement and recording of traffic	E.490–E.505
Forecasting of traffic	E.506–E.509
Determination of the number of circuits in manual operation	E.510–E.519
Determination of the number of circuits in automatic and semi-automatic operation	E.520–E.539
Grade of service	E.540–E.599
Definitions	E.600–E.649
Traffic engineering for IP-networks	E.650–E.699
ISDN traffic engineering	E.700–E.749
Mobile network traffic engineering	E.750–E.799
QUALITY OF TELECOMMUNICATION SERVICES: CONCEPTS, MODELS, OBJECTIVES AND DEPENDABILITY PLANNING	
Terms and definitions related to the quality of telecommunication services	E.800–E.809
Models for telecommunication services	E.810–E.844
Objectives for quality of service and related concepts of telecommunication services	E.845–E.859
Use of quality of service objectives for planning of telecommunication networks	E.860–E.879
Field data collection and evaluation on the performance of equipment, networks and services	E.880–E.899

For further details, please refer to the list of ITU-T Recommendations.

ITU-T Recommendation E.490.1

Overview of Recommendations on traffic engineering

Summary

This Recommendation provides an overview of the Recommendations on Traffic Engineering, specifically those numbered between E.490 and E.799, which constitute the main body of ITU-T Recommendations on traffic engineering.

This Recommendation presents the four major traffic engineering tasks, classifies the traffic engineering Recommendations according to the task to which they are related, provides a brief overview of each Recommendation and describes the interrelation between Recommendations. It is intended as an introduction for those practitioners who wish to apply ITU-T Recommendations on traffic engineering.

Source

ITU-T Recommendation E.490.1 was prepared by ITU-T Study Group 2 (2001-2004) and approved under the WTSA Resolution 1 procedure on 13 January 2003.

History

This is the first issue of ITU-T Rec. E.490.1

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 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 expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, 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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CONTENTS

Page

1	Scope	1
2	References.....	1
3	Definitions	1
4	Abbreviations.....	1
5	Major traffic engineering tasks.....	2
6	Traffic demand characterization	3
6.1	Traffic modelling.....	3
6.2	Traffic measurements	4
6.3	Traffic forecasting	6
7	Grade of service objectives.....	7
8	Traffic control and dimensioning	11
8.1	Circuit-switched networks.....	12
8.2	Packet-switched networks	14
8.3	Signalling and IN-structured networks.....	15
9	Performance monitoring	16
10	Other Recommendations	17

ITU-T Recommendation E.490.1

Overview of Recommendations on traffic engineering

1 Scope

This Recommendation provides an overview of the Recommendations on Traffic Engineering, specifically those numbered between E.490 and E.799, which constitute the main body of ITU-T Recommendations on traffic engineering. It is intended as an introduction for those practitioners who wish to apply ITU-T Recommendations on traffic engineering.

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; 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. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

All the Recommendations between E.490 and E.799 are referred to in this Recommendation. They are listed in Tables 1 to 7 and 9 to 12.

3 Definitions

The terms used in these Recommendations are consistent with the definitions made in the referred Recommendations on traffic engineering, especially with those made in ITU-T Rec. E.600 "Terms and definitions of traffic engineering".

4 Abbreviations

This Recommendation uses the following abbreviations:

ANM	Answer Message
ARIMA	Autoregressive Integrated Moving Average
ATM	Asynchronous Transfer Mode
B-ISDN	Broadband ISDN
CAC	Connection Admission Control
CPN	Customer Premises Network
DCME	Digital Circuit Multiplication Equipment
GoS	Grade of Service
HFC	Hybrid Fiber-Coaxial
IAM	Initial Address Message
IN	Intelligent Network
IP	Internet Protocol
ISDN	Integrated Services Digital Network
N-ISDN	Narrowband ISDN

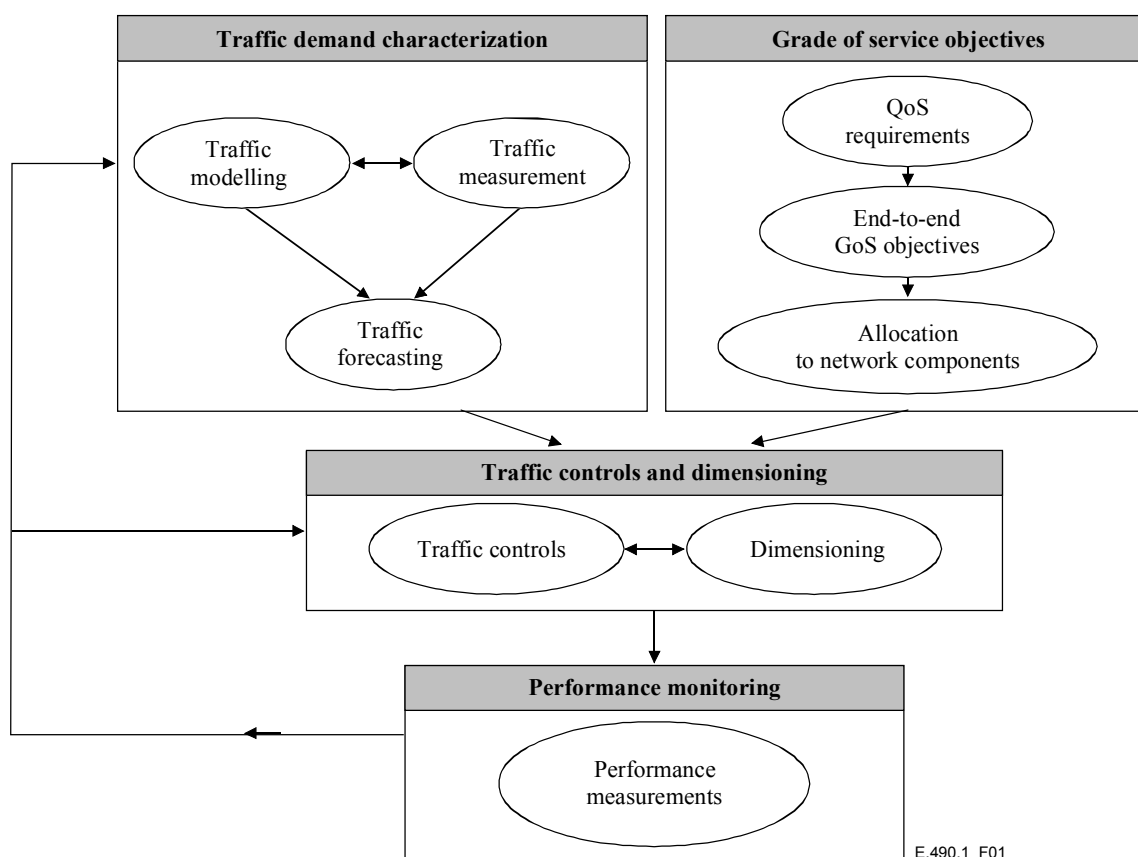
NP	Network Performance
PSTN	Public Switched Telephone Network
QoS	Quality of Service
SS No.7	Signalling System No.7
STP	Signal Transfer Point
UPT	Universal Personal Telecommunication
YRV	Yearly Representative Value

5 Major traffic engineering tasks

This Recommendation on traffic engineering can be classified according to the four major traffic engineer tasks:

- traffic demand characterization;
- Grade of Service (GoS) objectives;
- traffic controls and dimensioning;
- performance monitoring.

The interrelation between these four tasks is illustrated in Figure 1. The initial tasks in traffic engineering are to characterize the traffic demand and to specify the GoS (or performance) objectives. The results of these two tasks are input for dimensioning network resources and for establishing appropriate traffic controls. Finally, performance monitoring is required to check if the GoS objectives have been achieved and is used as a feedback for the overall process.



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Figure 1/E.490.1 – Traffic engineering tasks