INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

E.412

Amendment 1
(03/2001)

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

Network management – International network management

Network management controls

Amendment 1

ITU-T Recommendation E.412 – Amendment 1

(Formerly CCITT Recommendation)

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.412

Network management controls

AMENDMENT 1

Summary

This amendment proposes a method of specifying the amount of traffic to be controlled as a means to reduce the number of calls towards a destination.

Source

Amendment 1 to ITU-T Recommendation E.412 was prepared by ITU-T Study Group 2 (2001-2004) and approved under the WTSA Resolution 1 procedure on 15 March 2001.

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.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

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.

CONTENTS

		Page
1)	Clause 2.1	1
2)	New clause 2.3.3	1
3)	New clause 3.1.1.3	1
4)	Annex A	1

ITU-T Recommendation E.412

Network management controls

AMENDMENT 1

1) Clause 2.1

Amend the line:

– amount of traffic to be controlled (i.e. percentage or call rate);

to read:

– amount of traffic to be controlled (i.e., percentage, call rate, or capacity);

2) New clause 2.3.3

Insert the following new clause:

2.3.3 Capacity control

With the capacity control method, a maximum number of simultaneously seized circuits is allowed at any given time for the traffic flow in an expansive or protective NM control.

Typically, one counter for every active control (e.g., every TAR and every Code Block) is maintained. The counter is increased when a call is let through the control. The counter is decreased when such a call is released. When the counter reaches a value set by the network manager (for example, any value between 1 and 4000), no more calls are accepted through this control until the counter has been decreased.

3) New clause 3.1.1.3

Insert the following new clause:

3.1.1.3 Capacity

This control sets an upper limit to the maximum number of simultaneously seized circuits that are allowed at any given time towards the destination.

Typical application: Used for immediate control of focused overloads, mass-calling situations and mass-calling to an individual line number.

4) Annex A

Replace the table in Annex A with the following:

Annex A

Example of network management controls selectivity

Control			Code block	Call gap	Capacity	Cancel Direct Routing To	Cancel Direct Routing From	Circuit directionalization	Circuit turndown/ Busying/Blocking	Cancel Alternative Routing From (ARF)	Cancel Alternative Routing To (ART)	Skip	Temporary Alternative Routing (TAR)	Cancel Rerouted Overflow (CRO)	Automatic Congestion Control (ACC)	Selective Circuit Reservation (SCR)	Automatic Destination Control (ADC)
Managed object	Circuit group					X	X	X	X	X	X	X	X	X	X	X	
	Destination[a)]		X	X	X								X	X			X
	Exchange																
	IN node																
Traffic attribute	Traffic type	DR	–	–	–	X	X					X	X		X	X	–
		AR	–	–	–					X	X	X	X		X	X	–
		TAR	–	–	–									X			–
		HTR	–	–	–	!	!			!	!	!	!		X	X	–
		ETR	–	–	–	!	!			!	!	!	!		X	X	–
		Priority								!	!	!	!		X	X	–
		Non priority								!	!	!	!		X	X	–
		...															
	Service type	TMR															
		ISUP preference indicator															
		Calling party's category															
		...															
	Traffic source	Operator	!	!	!	X	X			X	X	X	X		X	X	
		Customer	!	!	!	X	X			X	X	X	X		X	X	
		Transit	!	!	!	X	X			X	X	X	X		X	X	
		Incoming	!														
		Access Ind. (PSTN, ASDN)															
		...															

		Control	Code block	Call gap	Capacity	Cancel Direct Routing To	Cancel Direct Routing From	Circuit directionalization	Circuit turndown/ Busying/Blocking	Cancel Alternative Routing From (ARF)	Cancel Alternative Routing To (ART)	Skip	Temporary Alternative Routing (TAR)	Cancel Rerouted Overflow (CRO)	Automatic Congestion Control (ACC)	Selective Circuit Reservation (SCR)	Automatic Destination Control (ADC)
Operating parameters	Amount	%	X			X	X	X	X	X	X	X	X		X	X	X
		Continuous/Asynchronous timer/Leaky bucket		X		X	X			X	X	X	X		X	X	X
		Capacity control			X								X				
		No. of circuits						X	X								
	Threshold														X	X	X
	Disposition	Cancel	X	X	X	X	X			X	X			X	X	X	
		Skip										X			X	X	

a) According to the definition of a destination (dialled digits), it can cover an exchange. The Exchange column refers to the identification of the exchange based on its identification label (not derived by the dialled digits).

DR	Direct Routed (traffic)	ETR	Easy-To-Reach	...	Future extensions
AR	Alternative Routed (traffic)	TMR	Transmission Medium Requirement	!	Optional
TAR	Temporary Alternative Routing (traffic)	X	Required (in the Amount column: select at least one of the "X")	Blank	Represents items for further study
HTR	Hard-To-Reach	–	Not required		

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
Series D	General tariff principles
Series E	**Overall network operation, telephone service, service operation and human factors**
Series F	Non-telephone telecommunication services
Series G	Transmission systems and media, digital systems and networks
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems

Geneva, 2001