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SERIES M: TMN AND NETWORK MAINTENANCE:
INTERNATIONAL TRANSMISSION SYSTEMS,
TELEPHONE CIRCUITS, TELEGRAPHY, FACSIMILE
AND LEASED CIRCUITS

Telecommunications management network

TMN management services and telecommunications managed areas: overview

ITU-T Recommendation M.3200

(Previously CCITT Recommendation)

ITU-T M-SERIES RECOMMENDATIONS

TMN AND NETWORK MAINTENANCE: INTERNATIONAL TRANSMISSION SYSTEMS, TELEPHONE CIRCUITS, TELEGRAPHY, FACSIMILE AND LEASED CIRCUITS

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ITU-T RECOMMENDATION M.3200

TMN MANAGEMENT SERVICES AND TELECOMMUNICATIONS MANAGED AREAS: OVERVIEW

Summary

This Recommendation provides an overview of the M.3200-Series. It describes the structuring principles of the M.3200-Series and lists the currently agreed Recommendations.

The concepts of "Telecommunications Managed Area" and "Telecommunications Management" are introduced. A summary description of each is provided, as well as a matrix defining their relationships. These Recommendations are intended as the basis for the corresponding modelling and protocol work on the TMN interfaces. They also provide a basis from which an Administration might plan the evolution of its Telecommunications Management as defined in 3.2 of this Recommendation.

The Recommendation is completed through a summary of a hypothetical example of the management context of a matrix crosspoint, i.e. Maintenance Management of Switched Telephone Network.

Source

ITU-T Recommendation M.3200 was revised by ITU-T Study Group 4 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 19th of April 1997.

Keywords

Object Modelling, Telecommunications Managed Areas, Telecommunications Management, Telecommunications Management Network, Management Service, Task Information Base.

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 expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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TMN MANAGEMENT SERVICES AND TELECOMMUNICATIONS MANAGED AREAS: OVERVIEW

(1992; revised in 1997)

1 Scope

This Recommendation is intended to provide an overview of Telecommunications Management Network (TMN) Management Services and Telecommunications Managed Areas. It provides the framework for the specification of protocols, messages, management information, etc. for TMN interfaces. The TMN Management Services are described from the TMN users' perspective and are independent of the protocols, messages and information models chosen. They will therefore assist in the smooth transition from a non-TMN to a TMN environment.

It should be noted that flexibility will be required in the definition of TMN Management Services to enable additional requirements to be accommodated as they are identified.

To avoid discrepancies and duplications, this Recommendation establishes the structuring principles (e.g. numbering, naming, etc.) for the M.3200-Series of Recommendations.

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.

2.1 CCITT and ITU-T Recommendations

- E.410 through E.414, *International network management*.
- E.420 through E.428, *Checking the quality of the international telephone service*.
- E.500 through E.721, *Traffic engineering*.
- E.800 through E.880, *Quality of telecommunication services: concepts, models, objectives, dependability planning*.
- ITU-T Recommendation M.3010 (1996), *Principles for a telecommunications management network*.
- ITU-T Recommendation M.3020 (1995), *TMN interface specification methodology*.
- ITU-T Recommendation M.3100 (1995), *Generic network information model*.
- ITU-T Recommendation M.3400 (1997), *TMN management functions*.
- CCITT Recommendation Q.500 (1988), *Digital local, combined, transit and international exchanges, introduction and field of application*.
- ITU-T Recommendation Q.512 (1995), *Digital exchange interfaces for subscriber access*.
- ITU-T Recommendation Q.513 (1993), *Digital exchange interfaces for operations, administration and maintenance*.



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- ITU-T Recommendation Q.521 (1993), *Digital exchange functions*.
- ITU-T Recommendation Q.541 (1993), *Digital exchange design objectives – General*.
- ITU-T Recommendation Q.542 (1993), *Digital exchange design objectives – Operations and maintenance*.
- ITU-T Recommendation Q.750 (1997), *Overview of Signalling System No. 7 management*.
- ITU-T Recommendation Q.751.1 (1995), *Network element management information model for the Message Transfer Part*.
- ITU-T Recommendation Q.752 (1997), *Monitoring and measurements for Signalling System No. 7 networks*.
- ITU-T Recommendation Q.753 (1997), *Signalling System No. 7 management functions MRVT, SRVT and CVT and definition of the OMASE-user*.
- ITU-T Recommendation Q.754 (1997), *Signalling System No. 7 management Application Service Element (ASE) definitions*.
- ITU-T Recommendation Q.821 (1993), *Stage 2 and stage 3 description for the Q3 interface – Alarm surveillance*.

2.2 ITU-R Recommendation

- M.817, *Basic Functional Model for IMT-2000*.

3 Definitions

This Recommendation defines the following terms.

3.1 telecommunications managed area: Telecommunications Managed Area is a set of telecommunications resources, logically and/or physically involved with the telecommunications services, that makes it possible to provide, partly or completely, these services to the customers and is chosen to be managed as a whole.

Examples: Switched Data Network

Switched Telephone Network

3.2 telecommunications management: Telecommunications Management, overall, is the result of integrating the management of the several Telecommunications Managed Areas of a company in order to maximize the quality to the telecommunications customers and the telecommunications resources productivity of a specific company, through performing the Management Services needed. The business objective of Telecommunications Management is to continually improve quality to the customer and operational productivity. Measures of continual improvement include:

- faster response to customers services demand;
- faster elimination of root causes of productivity degradation;
- improved accuracy of the bills and faster reception of them.

The objectives of Management Services are to support, through re-engineered processes and automation, these business objectives.

4 Abbreviations

This Recommendation uses the following abbreviations:

AAL	ATM Adaptation Layer
ADM	Add-Drop Multiplex
ASE	Application Service Element
ATM	Asynchronous Transfer Mode
BS	Base Station
FPLMTS	Future Public Land Mobile Telephone System
HTR	Hard-to-Reach
IDF	Intermediate Distribution Frame
IMT-2000	International Mobile Telecommunications-2000
IP	Intelligent Peripheral
ISUP	ISDN User Part
ME	Maintenance Entity
MIL-STD	Military Standard
MS	Mobile Station
MSC	Mobile Switching Centre
MTBF	Mean Time Between Failures
MTP	Message Transfer Part
OMAP	Operations, Maintenance, Administration and Provisioning
QOS	Quality of Service
RBS	Radio Base Stations
SCCP	Signalling Connection Control Part
SCE	Switching and Control Exchanges
SCP	Service Control Point
SDH	Synchronous Digital Hierarchy
SMDS	Switched Multimegabyte Digital System
SPC	Stored Program Control
SP	Signalling Points
SSP	Service Switching Point
STP	Signalling Transfer Points
TUP	Telephone User Part
VOD	Voice on Demand

