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MAINTENANCE: TELECOMMUNICATIONS MANAGEMENT NETWORK

CATALOGUE OF TMN MANAGEMENT INFORMATION



Recommendation M.3180

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).

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CCITT NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized private operating agency.

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Recommendation M.3180**CATALOGUE OF TMN MANAGEMENT INFORMATION***(1992)**Abstract*

This Recommendation is one of a series of Recommendations on the Telecommunications Management Network (TMN). It defines the scope of TMN management information, identifies related specification techniques, describes the relationships among CCITT Recommendations defining management information, and references definitions of currently available management information.

Keywords

- fragment;
- managed object;
- model;
- OSI management;
- resource.

1 Introduction

This Recommendation provides a catalogue of TMN management information involved in communications across the TMN interfaces defined in Recommendation M.3010 [1]. It does not define these management information, but rather identifies each by name and points to the Recommendation which contains its definition. The purpose of the Recommendation is to provide a “roadmap” to assist the reader in identifying the source of TMN management information. It also provides a listing of documents describing techniques and guidelines available to assist in the uniform definition of management information.

For the purposes of this Recommendation, management information includes managed object classes, attributes, name bindings, conditional packages, actions, notifications and behaviours as described in Recommendation X.722 [2], the Guidelines for the Definition of Managed Objects (GDMO). Only managed object classes are identified initially.

2 Definitions

This Recommendation depends on the definitions of the following terms from Recommendations X.701 [3] and X.722 [2]: managed object class, management support object, attributes, name bindings, conditional packages, actions, and notifications.

3 Catalogue overview

This section provides a summary of the information contained in the remaining sections of this Recommendation.

Section 4 contains a list of references to key documents which describe techniques for specifying management information as they apply to the TMN.

Section 5 lists the associated CCITT management information documents and describes the relationships among them.

Section 6 lists management information related to Recommendation M.3100 [4], the Generic Network Information Model (GNIM), and is categorized according to five fragments. GNIM extensions defined in other Recommendations are also included.



Section 7 lists management information associated with protocol machine resources.

Section 8 lists management information required to support common and specific functional areas.

Annex A provides an alphabetical index of management information

Annex B identifies the superclasses of managed object classes in §§ 6, 7, and 8.

4 Techniques for specifying management information

The Recommendations listed in this section describe the techniques which have been used in specifying TMN management information.

The following four CCITT/ISO texts from OSI Management are broad in scope and are provided to encourage consistency between managed object definitions.

Recommendation X.701 [ISO 10040]	Systems Management Overview;
Recommendation X.720 [ISO 10165-1]	Management Information Model;
Recommendation X.721 [ISO 10165-2]	Definition of Management Information;
Recommendation X.722 [ISO 10165-4]	Guidelines for the Definition of Managed Objects.

In addition the following two Recommendations provide guidelines for specifying management information specific to the TMN management area.

Recommendation M.3020	(TMN methodology);
Recommendation Q.8	(Switching and signalling methodology).

5 Relationships among CCITT management information Recommendations

5.1 *Generic Network Information Model*

The Generic Network Information Model (GNIM) defined in Recommendation M.3100 [4] reflects the common elements from the many telecommunication resources within the scope of TMN.

A generic telecommunications network information model is essential to the generation of uniform fault, configuration, performance, security, and accounting management standards. A common network model, identifying the generic resources that exist in a network and their associated attribute types, events, actions, and behaviours, provides a foundation for understanding the interrelationships between these resources and attributes, and may, in turn, promote uniformity in dealing with the various aspects of managing these resources and attributes.

5.2 *Management information for switching and signalling equipment*

The GNIM is expected to be refined by subclassing and extended in a non-generic manner in Recommendation Q.810 [5] to cover specific requirements for switching and signalling equipment. The management information for CCSS No. 7 protocol machine resources *will be* specified in draft Recommendation Q.751. The management information for ISDN is expected to be produced in the near future.

5.3 *Management information for transmission equipment*

The GNIM is refined by subclassing and extended in a non-generic manner in Recommendation G.774 [6] to cover specific requirements for SDH transmission equipment. Plans also exist to cover PDH transmission equipment.

5.4 *Management information for OSI*

The OSI Management Information described in Recommendation X.721 [7] [ISO 10165-2] primarily supports the management of the OSI protocol layers and is also available to complement other management information definitions. The management information for OSI protocol layers are expected to be specified in X-Series Recommendations.

5.5 *Management information for modems*

The management information for V-Series DCEs is under study.

6 **Management information supporting telecommunication network resources**

The following sections identify and categorize the TNM managed object classes supporting telecom network resources. Unless stated to the contrary, their definitions are found in Recommendation M.3 100 [4].

Note – The need for a Service Fragment is for further study.

6.1 *Network fragment*

Network

6.2 *Managed element fragment*

Equipment

Managed Element

Software

The following managed object class is specified in Recommendation G. 774 [6]:

SDH Network Element

6.3 *Termination point fragment*

Connection Termination Point Bidirectional

Connection Termination Point Sink

Connection Termination Point Source

Termination Point

Trail Termination Point Bidirectional

Trail Termination Point Sink

Trail Termination Point Source

The following managed object classes are specified in Recommendation G. 774 [6]:

Administrative Unit 3 Connection Termination Point Bidirectional

Administrative Unit 3 Connection Termination Point Sink

Administrative Unit 3 Connection Termination Point Source

Administrative Unit 4 Connection Termination Point Bidirectional

Administrative Unit 4 Connection Termination Point Sink

Administrative Unit 4 Connection Termination Point Source