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Telekomunikacijsko upravljavno omrežje (TMN) – Osnovni upravljani objekti

Telecommunications Management Network (TMN); Generic managed objects

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Foreword

This Interim European Telecommunication Standard (I-ETS) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

An ETSI standard may be given I-ETS status either because it is regarded as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited to three years after which it can be converted into an ETS, have it's life extended for a further two years, be replaced by a new version, or be withdrawn.

This I-ETS provides a generic management information model. It identifies those Telecommunications Management Network (TMN) managed object classes that are generic (i.e. potentially apply to more than one specific information model) and that are used to describe information exchanged across TMN interfaces defined in CCITT Recommendation M.3010.

Proposed announcement date	
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1 Scope

This Interim European Telecommunication Standard (I-ETS) provides a generic management information model. It identifies those TMN managed object classes that are generic (i.e. potentially apply to more than one specific information model) and that are used to describe information exchanged across TMN interfaces defined in CCITT Recommendation M.3010 [1].

CCITT Recommendation M.3100 [2], which is extended by this I-ETS, addresses generically the abstractions of those aspects of telecommunication resources (e.g. equipment, networks and telecommunication services) required to manage the network. It also includes the abstractions related to the management services.

The generic model is not yet complete and future issues of this I-ETS will be enhanced as a result of object modelling work in ETSI.

This I-ETS does not address abstractions relevant to technology specific areas or implementation specific details.

2 Normative references

This I-ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this I-ETS only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

[1] CCITT Recommendation M.3010 (1992): "Principles for a telecommunications management network".

[2] CCITT Recommendation M.3100 (1992): "Generic network information model".

[3] CCITT Recommendation X.722 (1992): "Information technology - Open Systems Interconnection - Structure of Management Information: Guidelines for the definition of managed objects".

[4] CCITT Recommendation X.208 (1990): "Specification of Abstract Syntax Notation One (ASN.1)".

[5] ETR 047 (1992): "Network Aspects (NA): "Telecommunications Management Network (TMN) Management services".

[6] CCITT Recommendation G.803 (1992): "Architectures of transport networks based on the synchronous digital hierarchy (SDH)".

[7] CCITT Recommendation X.721 (1992): "Information technology - Open Systems Interconnection - Structure of management information: Definition of management information".

[8] CCITT Recommendation Q.821 (1992): "Stage 2 and 3 descriptions for the Q3 interface - Alarm surveillance".

3 Abbreviations

For the purposes of this I-ETS, the following abbreviations apply:

ASN.1	Abstract Syntax Notation One
CA	Customer Administration
NE	Network Element
OS	Operation Systems
OSI	Open System Interconnection
TMN	Telecommunications Management Network
UMTS	Universal Mobile Telecommunications Systems

4 General

4.1 Purpose

As CCITT Recommendation M.3100 [2].

4.2 Field of application

As CCITT Recommendation M.3100 [2].

4.3 Structure of this I-ETS

CCITT Recommendation M.3100 [2] provides an overview of the generic network model used in this I-ETS. The definition of management information given in clauses 5 to 12, describing information model is documented using the notional mechanisms defined in CCITT Recommendation X.722 [3]. The notation used is Abstract Syntax Notation One (ASN.1) defined in CCITT Recommendation X.208 [4]. Some object classes are imported from CCITT Recommendations X.721 [7] and Q.821 [8].

Annexes A and B contain candidate generic management information which have been identified as part of the call routing information management and customer administration modelling tasks. They have been included in these annexes for registration purposes prior to consideration for inclusion in the main body of this I-ETS.

Annexes C and D contain candidate management information for the network level viewpoint and service level viewpoint respectively. They are included for information, prior to consideration for inclusion in the main body of this I-ETS.

Annex E contains explanatory text designed to illustrate potential uses of the managed objects, identified in the body of this I-ETS.

4.4 Overview of the network model

As CCITT Recommendation M.3100 [2].

5 Object classes

This clause contains the textual definitions of the object classes that form the basis for the generic network information model. This model takes as its basis the managed objects defined in the body of CCITT Recommendation M.3100 [2]. These object classes are grouped into 6 fragments. These fragments show all related object classes from different perspectives.

The object classes, packages, attributes, notifications, actions and name bindings, which are registered through ETSI, are additional to those defined in clauses 3 to 10 of CCITT Recommendation M.3100 [2]. Objects identified in Annexes of CCITT Recommendation M.3100 [2] are not considered to be part of this I-ETS.

5.1 Network fragment

Objects imported from CCITT Recommendation M.3100 [2] are as follows:

```
BEGIN
IMPORTS
        Recommendation M.3100:1992 Network,
from M.3100ObjectClass{ccitt(0) recommendation(0) m(13) 3100(3100) informationModel(0)
managedObjectClass(3)}
;
END
```

All packages, attributes, ASN.1 and name bindings associated with object classes are implicitly imported from CCITT Recommendations defining the appropriate object class.

5.2 Managed element fragment

Objects imported from CCITT Recommendation M.3100 [2] are as follows:

```
BEGIN
IMPORTS
        Recommendation M.3100:1992 Equipment,
        Recommendation M.3100:1992 Managed Element,
        Recommendation M.3100:1992 Software,
from M.3100ObjectClass{ccitt(0) recommendation(0) m(13) 3100(3100) informationModel(0)
managedObjectClass(3)}
;
END
```


All packages, attributes, ASN.1 and name bindings associated with object classes are implicitly imported from CCITT Recommendations defining the appropriate object class.

5.3 Termination point fragment

Objects imported from CCITT Recommendation M.3100 [2] are as follows:

```
BEGIN
IMPORTS
        Recommendation M.3100:1992 Connection Termination Point Bidirectional,
        Recommendation M.3100:1992 Connection Termination Point Sink,
        Recommendation M.3100:1992 Connection Termination Point Source,
        Recommendation M.3100:1992 Termination point,
        Recommendation M.3100:1992 Trail Termination point Bidirectional,
        Recommendation M.3100:1992 Trail Termination point Sink,
        Recommendation M.3100:1992 Trail Termination point Source,
from M.3100ObjectClass{ccitt(0) recommendation(0) m(13) 3100(3100) informationModel(0)
managedObjectClass(3)}
;
END
```

All packages, attributes, ASN.1 and name bindings associated with object classes are implicitly imported from CCITT Recommendations defining the appropriate object class.

5.4 Cross connect fragment

Objects imported from CCITT Recommendation M.3100 [2] are as follows:

```
BEGIN
IMPORTS
        Recommendation M.3100:1992 Cross Connection,
        Recommendation M.3100:1992 Fabric,
        Recommendation M.3100:1992 Group Termination Point,
        Recommendation M.3100:1992 Multipoint Cross-Connection Network,
        Recommendation M.3100:1992 Named Cross-Connection,
        Recommendation M.3100:1992 Named Multipoint Cross Connection,
        Recommendation M.3100:1992 TP Pool,
from M.3100ObjectClass{ccitt(0) recommendation(0) m(13) 3100(3100) informationModel(0)
managedObjectClass(3)}
;
END
```

All packages, attributes, ASN.1 and name bindings associated with object classes are implicitly imported from CCITT Recommendations defining the appropriate object class.

5.5 Functional area fragment

Objects imported from CCITT Recommendation M.3100 [2] are as follows:

```
BEGIN
IMPORTS
        Recommendation X.721:1992 Alarm Record,
        Recommendation X.721:1992 Alarm Severity Assignment Profile,
        Recommendation X.721:1992 Attribute Value Change Record,
        Recommendation Q.821:1992 Current Alarm Summary Control,
        Recommendation X.721:1992 Discriminator,
        Recommendation X.721:1992 Event Forwarding Discriminator,
        Recommendation X.721:1992 Event Log Record,
        Recommendation X.721:1992 Log,
        Recommendation X.721:1992 Log Record,
        Recommendation Q.821:1992 Management Operations Scheduler,
        Recommendation X.721:1992 Object Creation Record,
        Recommendation X.721:1992 Object Deletion Record,
        Recommendation X.721:1992 State Change Record,
from M.3100ObjectClass{ccitt(0) recommendation(0) m(13) 3100(3100) informationModel(0)
managedObjectClass(3)}
;
END
```


All packages, attributes, ASN.1 and name bindings associated with object classes are implicitly imported from CCITT Recommendations defining the appropriate object class.

5.6 Service fragment

No managed objects have been defined for this fragment. However candidate object classes are listed in annex D.

6 Packages

As CCITT Recommendation M.3100 [2].

7 Attributes

As CCITT Recommendation M.3100 [2]:

8 Name bindings

As CCITT Recommendation M.3100 [2], plus the following:

8.1 Equipment

```
equipment-network NAME BINDING
        SUBORDINATE OBJECT CLASS            equipment AND SUBCLASSES;
        NAMED BY
        SUPERIOR OBJECT CLASS               network AND SUBCLASSES;
        WITH ATTRIBUTE                      equipmentId
        BEHAVIOUR
                equipment-networkNameBindingBehaviour BEHAVIOUR
        DEFINED AS
        "This naming is for use when viewing equipment from the network
        perspective."

REGISTERED AS {etsiNameBinding 1}
```

8.2 Network

```
network-root NAME BINDING
        SUBORDINATE OBJECT CLASS            network;
        NAMED BY
        SUPERIOR OBJECT CLASS               root;
        WITH ATTRIBUTE                      networkId;
        CREATE;
        DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {etsiNameBinding 2};
```


9 Actions

As CCITT Recommendation M.3100 [2].

10 Notifications

As CCITT Recommendation M.3100 [2].

11 ASN.1 defined type module

As CCITT Recommendation M.3100 [2].

12 Entity-relationship diagrams

As CCITT Recommendation M.3100 [2].

Additions to the CCITT Entity-Relationship diagrams to accommodate ETSI object classes, name bindings, etc. are not included in this issue of the I-ETS.