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Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
3G Configuration Management:
CN Network Resources IRP: CMIP Solution Set;
(Release 4)**



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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

Configuration Management (CM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. CM actions have the objective to control and monitor the actual configuration on the Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (OSs) or NEs.

Due to the growing number of specifications to model new services and Resource Models for Configuration Management (CM), as well as the expected growth in size of each of them from 3GPP Release 4 onwards, a new structure of the specifications is already needed in Release 4. This structure is needed for several reasons, but mainly to enable more independent development and release for each part, as well as a simpler document identification and version handling. Another benefit would be that it becomes easier for bodies outside 3GPP, such as the ITU-T, to refer to telecom management specifications from 3GPP. The new structure of the specifications does not lose any information or functionality supported by the Release 1999. The restructuring also includes defining new IRPs for the Network Resource Models (Generic, Core Network and UTRAN NRM).

Finally, the Name convention for Managed Objects (in Release 1999: 32.106-8) has been moved to a separate number series used for specifications common between several management areas (e.g. CM, FM, PM).

The following table shows an overview of the mapping between the old Release 1999 and new Release 4 CM specification structure.

Table: Mapping between Release '99 and the new Rel-4 specifications

R99 Old no.	Old (R99) specification title	Rel-4 New no.	New (Rel-4) specification title
32.106-1	3G Configuration Management: Concept and Requirements	32.600	3G Configuration Management: Concept and High-level Requirements
32.106-1	<Notification IRP requirements from 32.106-1 and 32.106-2>	32.301-1	Notification IRP: Requirements
32.106-2	Notification IRP: IS	32.301-2	Notification IRP: Information Service
32.106-3	Notification IRP: CORBA SS	32.301-3	Notification IRP: CORBA SS
32.106-4	Notification IRP: CMIP SS	32.301-4	Notification IRP: CMIP SS
32.106-8	Name convention for Managed Objects	32.300	Name Convention for Managed Objects
32.106-1	<Basic CM IRP IS requirements from 32.106-1 and 32.106-5>	32.601-1	Basic CM IRP: Requirements
32.106-5	Basic CM IRP IM (Intro & IS part)	32.601-2	Basic CM IRP: Information Service
32.106-6	Basic CM IRP CORBA SS (IS related part)	32.601-3	Basic CM IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (IS related part)	32.601-4	Basic CM IRP: CMIP SS
32.106-1	<Basic CM IRP Generic NRM requirements from 32.106-1 and 32.106-5>	32.620-1	Generic Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (Generic NRM part)	32.620-2	Generic Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (Generic NRM related part)	32.620-3	Generic Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (Generic NRM related part)	32.620-4	Generic Network Resources IRP: CMIP SS
32.106-1	<Basic CM IRP CN NRM requirements from 32.106-1 and 32.106-5>	32.621-1	Core Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (CN NRM part)	32.621-2	Core Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (CN NRM related part)	32.621-3	Core Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (CN NRM related part)	32.621-4	Core Network Resources IRP: CMIP SS
32.106-1	<Basic CM IRP UTRAN NRM requirements from 32.106-1 and 32.106-5>	32.622-1	UTRAN Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (UTRAN NRM part)	32.622-2	UTRAN Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (UTRAN NRM related part)	32.622-3	UTRAN Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (UTRAN NRM related part)	32.622-4	UTRAN Network Resources IRP: CMIP SS

The present document is 3GPP TS 32.621-4: CN Network Resource IRP: CMIP Solution Set.

1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the CN Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.621-2. In detail:

- Clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces.
- Clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces
- Clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 32.101: "3G Telecom Management principles and high level requirements".
- [2] 3GPP TS 32.102: "3G Telecom Management architecture".
- [3] 3GPP TS 32.301-4: "Telecommunication Management; Notification Management; Part 4: Notification Integration Reference Point; CMIP Solution Set".
- [4] 3GPP TS 32.621-2: "Telecommunication Management; Configuration Management: CN Network Resource Integration Reference Point: Network Resource Model".
- [5] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications".
- [6] ITU-T Recommendation X.721 (02/92): "Information Technology - Open Systems Interconnection – Structure of Management Information: Definition of Management Information".
- [7] ITU-T Recommendation X.730 (01/92): "Information Technology - Open Systems Interconnection – Systems Management: Object Management Function".
- [8] ITU-T Recommendation X.733 (02/92): "Information Technology - Open Systems Interconnection - Alarm Reporting Function".
- [9] ITU-T Recommendation M.3100 (07/95): "Maintenance Telecommunications Management Network – Generic Network Information Model".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.600 and 3GPP TS 32.621-2 apply.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CMIP	Common Management Information Protocol
DN	Distinguished Name
GDMO	Guidelines for the Definition of Managed Objects
IDL	Interface Definition Language
IEC	International Electro-technical Commission
ISO	International Standards Organization
ITU-T	International Telecommunication Union, Telecommunication Sector
MIB	Management Information Base
MIM	Management Information Model
MIT	Management Information Tree (or Naming Tree)
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
TMN	Telecommunications Management Network
UTRAN	UMTS Terrestrial Radio Access Network

4 Basic aspects

4.1 Explanation

A technology independent CN network resource model is defined in 3GPP TS 32.621-2 for 3G networks. This document provides an implementation of this CN network resource model by using CMIP technology.

4.2 Mapping

The semantic of the CN Network Resource Model is defined in 3GPP TS 32.621-2. The specification of the information object classes defined there is independent of any implementation technology and protocol.

This subclause maps these technology and protocol independent definitions onto the equivalencies of the CMIP Solution Set of the UTRAN Network Resource IRP.

4.2.1 Mapping of MOCs

Table 2 maps the information object classes defined in the CN Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table 1: Mapping of MOCs

Managed Objects of the CN NR IRP NRM	MOCs of this CMIP SS
AucFunction	AucFunction (3GPP TS 32.106-7: 6.2001)
BgFunction	bgFunction (3GPP TS 32.106-7: 6.2001)
EirFunction	eirFunction (3GPP TS 32.106-7: 6.2001)
GgsnFunction	ggsnFunction (3GPP TS 32.106-7: 6.2001)
GmscFunction	gmscFunction (3GPP TS 32.106-7: 6.2001)
HlrFunction	hlrFunction (3GPP TS 32.106-7: 6.2001)
MscFunction	mscFunction (3GPP TS 32.106-7: 6.2001)
SgsnFunction	sgsnFunction (3GPP TS 32.106-7: 6.2001)
SmsGmscFunction	smsGmscFunction (3GPP TS 32.106-7: 6.2001)
SmsIwmscFunction	smsIwmscFunction (3GPP TS 32.106-7: 6.2001)
VlrFunction	vlrFunction (3GPP TS 32.106-7: 6.2001)
SmlcFunction	smlcFunction
GmlcFunction	gmlcFunction
SfcFunction	sfcFunction
SrfFunction	srfFunction
CbcFunction	cbcFunction
CqfFunction	cqfFunction
MgwFunction	mgwFunction
GmscFunction	gmscFunction
IwfFunction	iwfFunction
MnpSrfFunction	mnpSrfFunction
NpdbFunction	npdbFunction
RSgwFunction	rSgwFunction
SsfFunction	ssfFunction
BsFunction	bsFunction

4.2.2 Mapping of Attributes

Table 2: Mapping of Attributes

Attribute defined in 3GPP TS 32.621-2	Attribute defined in this CMIP SS
UserLabel	userLabel (3GPP TS 32.106-7: 6.2001)
AucFunctionId	AucFunctionId (3GPP TS 32.106-7: 6.2001)
BgFunctionId	bgFunctionId (3GPP TS 32.106-7: 6.2001)
eirFunctionId	eirFunctionId (3GPP TS 32.106-7: 6.2001)
ggsnFunctionId	ggsnFunctionId (3GPP TS 32.106-7: 6.2001)
gmscFunctionId	gmscFunctionId (3GPP TS 32.106-7: 6.2001)
hlrFunctionId	hlrFunctionId (3GPP TS 32.106-7: 6.2001)
mscFunctionId	mscFunctionId (3GPP TS 32.106-7: 6.2001)
vlrFunctionId	vlrFunctionId (3GPP TS 32.106-7: 6.2001)
sgsnFunctionId	sgsnFunctionId (3GPP TS 32.106-7: 6.2001)
smsGmscFunctionId	smsGmscFunctionId (3GPP TS 32.106-7: 6.2001)
smsIwmscFunctionId	smsIwmscFunctionId (3GPP TS 32.106-7: 6.2001)
smlcFunctionId	smlcFunctionId
gmlcFunctionId	gmlcFunctionId
sfcFunctionId	sfcFunctionId
srfFunctionId	srfFunctionId
cbcFunctionId	cbcFunctionId
cqfFunctionId	cqfFunctionId
mgwFunctionId	mgwFunctionId
gmscFunctionId	gmscFunctionId
iwfFunctionId	iwfFunctionId
mnpSrfFunctionId	mnpSrfFunctionId
npdbFunctionId	npdbFunctionId
rSgwFunctionId	rSgwFunctionId
ssfFunctionId	ssfFunctionId
bsFunctionId	bsFunctionId

5 GDMO Definitions

5.1 Managed Object Classes

5.1.1 smlcFunction

smlcFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

smlcFunctionBasicPackage PACKAGE

BEHAVIOUR **smlcFunctionBasicPackageBehaviour;**

ATTRIBUTES

smlcFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 1};

smlcFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents SMLC functionality. For more information about the SMLC, see 3GPP TS 23.002";

5.1.2 gmlcFunction

gmlcFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

gmlcFunctionBasicPackage PACKAGE

BEHAVIOUR **gmlcFunctionBasicPackageBehaviour;**

ATTRIBUTES

gmlcFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 2};

gmlcFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents GMLC functionality. For more information about the GMLC, see 3GPP TS 23.002";

5.1.3 scfFunction

scfFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **scfFunctionBasicPackageBehaviour;**

ATTRIBUTES

scfFunctionId GET;;;
REGISTERED AS {ts32-621ObjectClass 3};

scfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents SCF functionality. For more information about the SCF, see 3GPP TS 23.002";

5.1.4 srfFunction

srfFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;
CHARACTERIZED BY
scfFunctionBasicPackage PACKAGE
BEHAVIOUR **srfFunctionBasicPackageBehaviour**;
ATTRIBUTES
srfFunctionId GET;;;
REGISTERED AS {ts32-621ObjectClass 4};

srfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents SRF functionality. For more information about the SRF, see 3GPP TS 23.002";

5.1.5 cbcFunction

cbcFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;
CHARACTERIZED BY
cbcFunctionBasicPackage PACKAGE
BEHAVIOUR **cbcFunctionBasicPackageBehaviour**;
ATTRIBUTES
cbcFunctionId GET;;;
REGISTERED AS {ts32-621ObjectClass 5};

cbcFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents SBC functionality. For more information about the SBC, see 3GPP TS 23.002";

5.1.6 cgfFunction

cgfFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;
CHARACTERIZED BY
cgfFunctionBasicPackage PACKAGE

BEHAVIOUR cgfFunctionBasicPackageBehaviour;
ATTRIBUTES

cgfFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 6};

cgfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents CGF functionality. For more information about the CGF, see 3GPP TS 23.002";

5.1.7 mgwFunction

mgwFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;

CHARACTERIZED BY

mgwFunctionBasicPackage PACKAGE

BEHAVIOUR mgwFunctionBasicPackageBehaviour;

ATTRIBUTES

mgwFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 7};

mgwFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents MGW functionality. For more information about the MGW, see 3GPP TS 23.002";

5.1.8 gmscFunction

gmscFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR gmscFunctionBasicPackageBehaviour;

ATTRIBUTES

gmscFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 8};

gmscFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents gmsc functionality. For more information about the gmsc, see 3GPP TS 23.002";

5.1.9 iwfFunction

iwfFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **iwfFunctionBasicPackageBehaviour;**

ATTRIBUTES

iwfFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 9};

iwfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

" This Managed Object Class represents IWF functionality. For more information about the IWF, see 3GPP TS 23.002";

5.1.10 mnpSrfFunction

mnpSrfFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **mnpSrfFunctionBasicPackageBehaviour;**

ATTRIBUTES

mnpSrfFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 10};

mnpSrfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

" This Managed Object Class represents MNPSRF functionality. For more information about the MNPSRF, see 3GPP TS 23.002";

5.1.11 npdbFunction

npdbFunction MANAGED OBJECT CLASS

DERIVED FROM "3GPP TS 32.106-7: 6.2001": managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **npdbFunctionBasicPackageBehaviour;**

ATTRIBUTES

npdbFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 11};

npdbFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

" This Managed Object Class represents NPDB functionality. For more information about the NPDB, see 3GPP TS 23.002";

5.1.12 rSgwFunction

rSgwFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **rSgwFunctionBasicPackageBehaviour**;

ATTRIBUTES

rSgwFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 12};

rSgwFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

" This Managed Object Class represents R-SGW functionality. For more information about the R-SGW, see 3GPP TS 23.002";

5.1.13 ssfFunction

ssfFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **ssfFunctionBasicPackageBehaviour**;

ATTRIBUTES

ssfFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 13};

ssfFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

" This Managed Object Class represents SSF functionality. For more information about the SSF, see 3GPP TS 23.002";

5.1.14 bsFunction

bsFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.106-7: 6.2001”: managedFunction;

CHARACTERIZED BY

scfFunctionBasicPackage PACKAGE

BEHAVIOUR **bsFunctionBasicPackageBehaviour**;

ATTRIBUTES

bsFunctionId GET;;;

REGISTERED AS {ts32-621ObjectClass 14};

bsFunctionBasicPackageBehaviour BEHAVIOUR

DEFINED AS

"This Managed Object Class represents BS functionality. For more information about the BS, see 3GPP TS 23.002";

5.2 Attributes

5.2.1 smlcFunctionId

smlcFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
smlcFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 1};

smlcFunctionIdBehaviour BEHAVIOUR

DEFINED AS
"This attribute identifies a smlcFunction instance.";

5.2.2 gmlcFunctionId

gmlcFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
gmlcFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 2};

gmlcFunctionIdBehaviour BEHAVIOUR

DEFINED AS
"This attribute identifies a gmlcFunction instance.";

5.2.3 sfcFunctionId

sfcFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
sfcFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 3};

sfcFunctionIdBehaviour BEHAVIOUR

DEFINED AS
"This attribute identifies a sfcFunction instance.";

5.2.4 srfFunctionId

srfFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
 srfFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 4};

srfFunctionIdBehaviour BEHAVIOUR

DEFINED AS
 "This attribute identifies a srfFunction instance.";

5.2.5 CbcFunctionId

CbcFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
 CbcFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 5};

CbcFunctionIdBehaviour BEHAVIOUR

DEFINED AS
 "This attribute identifies a CbcFunction instance.";

5.2.6 CgfFunctionId

CgfFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
 CgfFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 6};

CgfFunctionIdBehaviour BEHAVIOUR

DEFINED AS
 "This attribute identifies a CgfFunction instance.";

5.2.7 mgwFunctionId

mgwFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
 mgwFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 7};

mgwFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a mgwFunction instance.";

5.2.8 gmscFunctionId**gmscFunctionId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

gmscFunctionIdBehaviour;

REGISTERED AS {ts32-621Attribute 8};

gmscFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a gmscFunction instance.";

5.2.9 iwfFunctionId**iwfFunctionId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

iwfFunctionIdBehaviour;

REGISTERED AS {ts32-621Attribute 9};

iwfFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a iwfFunction instance.";

5.2.10 mnpSrfFunctionId**mnpSrfFunctionId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

mnpSrfFunctionIdBehaviour;

REGISTERED AS {ts32-621Attribute 10};

mnpSrfFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a mnpSrfFunction instance.";

5.2.11 npdbFunctionId**npdbFunctionId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
npdbFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 11};

npdbFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a npdbFunction instance.";

5.2.12 rSgwFunctionId

rSgwFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
rSgwFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 12};

rSgwFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a rSgwFunction instance.";

5.2.13 ssfFunctionId

ssfFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
ssfFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 13};

ssfFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a ssfFunction instance.";

5.2.14 bsFunctionId

bsFunctionId ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-106-7TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
bsFunctionIdBehaviour;
REGISTERED AS {ts32-621Attribute 14};

bsFunctionIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute identifies a bsFunction instance.";

5.3 Name Binding

5.3.1 smlcFunction - managedElement

smlcFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE smlcFunctionId;

BEHAVIOUR

smlcFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 1};

smlcFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a smlcFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.2 gmlcFunction - managedElement

gmlcFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE gmlcFunctionId;

BEHAVIOUR

gmlcFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 2};

gmlcFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a gmlcFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.3 sfcFunction - managedElement

sfcFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE sfcFunctionId;

BEHAVIOUR

sfcFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 3};

sfcFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a sfcFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.4 srfFunction - managedElement

srfFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;
NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;
WITH ATTRIBUTE srfFunctionId;
BEHAVIOUR
srfFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 4};

srfFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a srfFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.5 cbcFunction - managedElement

cbcFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;
NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;
WITH ATTRIBUTE cbcFunctionId;
BEHAVIOUR
cbcFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 5};

cbcFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a cbcFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.6 cgfFunction - managedElement

cgfFunction-manage dElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE cgfFunctionId;

BEHAVIOUR

cgfFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 6};

cgfFunction-manage dElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a cgfFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.7 mgwFunction - managedElement

mgwFunction-manage dElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE mgwFunctionId;

BEHAVIOUR

mgwFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 7};

mgwFunction-manage dElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a mgwFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.8 gmscFunction - managedElement

gmscFunction-manage dElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE gmscFunctionId;

BEHAVIOUR

gmscFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 8};

gmscFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a gmscFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.9 iwfFunction - managedElement**iwfFunction-managedElement** NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE iwfFunctionId;

BEHAVIOUR

iwfFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 9};

iwfFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a iwfFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.10 mnpSrfFunction - managedElement**mnpSrfFunction-managedElement** NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE mnpSrfFunctionId;

BEHAVIOUR

mnpSrfFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 10};

mnpSrfFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a mnpSrfFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.11 npdbFunction - managedElement**npdbFunction-managedElement** NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE npdbFunctionId;

BEHAVIOUR

npdbFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 11};

npdbFunction-managedElementBehaviour BEHAVIOUR**DEFINED AS**

"The name binding represents a relationship in which a managedElement contains and controls a npdbFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.12 rSgwFunction - managedElement**rSgwFunction-managedElement NAME BINDING**

SUBORDINATE OBJECT CLASS rncFunction;
NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;
WITH ATTRIBUTE rSgwFunctionId;
BEHAVIOUR
rSgwFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 12};

rSgwFunction-managedElementBehaviour BEHAVIOUR**DEFINED AS**

"The name binding represents a relationship in which a managedElement contains and controls a rSgwFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.13 ssfFunction - managedElement**ssfFunction-managedElement NAME BINDING**

SUBORDINATE OBJECT CLASS rncFunction;
NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;
WITH ATTRIBUTE ssfFunctionId;
BEHAVIOUR
ssfFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-621NameBinding 13};

ssfFunction-managedElementBehaviour BEHAVIOUR**DEFINED AS**

"The name binding represents a relationship in which a managedElement contains and controls a ssfFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.3.14 bsFunction - managedElement

bsFunction-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS rncFunction;

NAMED BY SUPERIOR OBJECT CLASS "3GPP TS 32.620-4: 6.2001": managedElement;

WITH ATTRIBUTE bsFunctionId;

BEHAVIOUR

bsFunction-managedElementBehaviour;

CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-621NameBinding 14};

bsFunction-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement contains and controls a bsFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

6 ASN.1 Definitions

```
TS32-621TypeModule {ccitt (0) identified-organization (4) etsi (0)
    mobileDomain (0) umts-Operation-Maintenance (3) ts-32-621 (621)
    informationModel (0) asn1Module (2) version1 (1)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
```

```
BEGIN
```

```
--EXPORTS everything
```

```
--IMPORTS
```

```
-- 3GPP TS 32.621-4 related Object Identifiers
```

```
baseNodeUMTS OBJECT IDENTIFIER ::= { itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
    umts-Operation-Maintenance(3)}
```

```
ts32-621 OBJECT IDENTIFIER ::= { baseNodeUMTS ts-32-621(621)}
```

```
ts32-621InfoModel OBJECT IDENTIFIER ::= { ts32-621 informationModel(0)}
```

```
ts32-621ObjectClass OBJECT IDENTIFIER ::= { ts32-621InfoModel managedObjectClass(3)}
```

```
ts32-621Package OBJECT IDENTIFIER ::= { ts32-621InfoModel package(4)}
```

```
ts32-621Parameter OBJECT IDENTIFIER ::= { ts32-621InfoModel parameter(5)}
```

```
ts32-621NameBinding OBJECT IDENTIFIER ::= { ts32-621InfoModel nameBinding(6)}
```

```
ts32-621Attribute OBJECT IDENTIFIER ::= { ts32-621InfoModel attribute(7)}
```

```
ts32-621Action OBJECT IDENTIFIER ::= { ts32-621InfoModel action(9)}
```

```
ts32-621Notification OBJECT IDENTIFIER ::= { ts32-621InfoModel notification(10)}
```

```
-- Start of 3gPP SA5 own definitions
```

```
END -- of TS32-621TypeModule
```

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0