

ETSI TS 132 644 V5.0.0 (2002-12)

Technical Specification

**Universal Mobile Telecommunications System (UMTS);
Telecommunication management;
Configuration Management (CM);
UTRAN network resources Integration Reference Point (IRP):
CMIP solution set
(3GPP TS 32.644 version 5.0.0 Release 5)**



Reference

RTS/TSGS-0532644v500

Keywords

UMTS

ETSI

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Sous-Préfecture de Grasse (06) N° 7803/88

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Introduction

The interface Itf-N, defined in 3GPP TS 32.102 [2], is built up by a number of Integration Reference Points (IRPs) and a related Name Convention, which realise the functional capabilities over this interface. The basic structure of the IRPs is defined in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the UTRAN Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.642. 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.

This Solution Set specification is related to 3GPP TS 32.642 V5.0.x.

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.
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- [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 32.304: "Telecommunication Management; Notification Management; Part 4: Notification Integration Reference Point; CMIP Solution Set".
- [4] 3GPP TS 32.642: "Telecommunication Management; Configuration Management (CM); UTRAN Network Resource Integration Reference Point (IRP): 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 32.642 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 Architectural aspects

A technology independent UTRAN network resource model is defined in 3GPP TS 32.642 for 3G networks. This document provides an implementation of this UTRAN network resource model by using CMIP technology.

4.2 Mapping

The semantic of the UTRAN Network Resource Model is defined in 3GPP TS 32.642. 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 Information Object Classes

Table 1 maps the information object classes defined in the UTRAN Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table 1: Mapping of IOCs

IS IOC	CMIP SS MOC
RncFunction	rncFunction
NodeBFunction	nodeBFunction
UtranCell	utranCell
IubLink	iubLink
UtranRelation	utranRelation
ExternalUtranCell	externalUtranCell

4.2.2 Mapping of Information Object Class Attributes

This chapter depicts the mapping of the attributes defined in 3GPP TS 32.642 [4] on the corresponding attributes of the CMIP Solution Set.

4.2.2.1 Attribute Mapping of the IOC *RncFunction*

Table 2: Attribute mapping of the IOC *RncFunction*

IS Attribute	CMIP SS Attribute	Qualifier
rncFunctionId	rncFunctionId	M
userLabel	userLabel (ITU-T M.3100 [9])	M
mcc	mcc	M
mnc	mnc	M
rnclId	rnclId	M

4.2.2.2 Attribute Mapping of the IOC *NodeBFunction*Table 3: Attribute mapping of the IOC *NodeBFunction*

IS Attribute	CMIP SS Attribute	Qualifier
nodeBFunctionId	nodeBFunctionId	M
userLabel	userLabel (ITU-T M.3100 [9])	M
nodeBFunction-IubLink	NodeBFunction2IubLink	M

4.2.2.3 Attribute Mapping of the IOC *UtranCell*Table 4: Attribute mapping of the IOC *UtranCell*

IS Attribute	CMIP SS Attribute	Qualifier
utranCellId	utranCellId	M
userLabel	userLabel (ITU-T M.3100 [9])	M
cId	cId	M
localCellId	localCellId	M
uarfcnDI	uarfcnDI	M
uarfcnUI	uarfcnUI	M
primaryScramblingCode	primaryScramblingCode	M
primaryCpichPower	primaryCpichPower	M
maximumTransmissionPower	maximumTransmissionPower	M
primarySchPower	primarySchPower	M
secondarySchPower	secondarySchPower	M
bchPower	bchPower	M
lac	lac	M
rac	rac	M
sac	sac	M
ura	ura	M
utranCell-IubLink	utranCell2IubLink	M
operationalState	operationalState	O

4.2.2.4 Attribute Mapping of the IOC *IubLink*Table 5: Attribute mapping of the IOC *IubLink*

IS Attribute	CMIP SS Attribute	Qualifier
iubLinkId	iubLinkId	M
userLabel	userLabel (ITU-T M.3100 [9])	M
iubLink-UtranCell	iubLink2utranCell	M
iubLink-NodeBFunction	iubLink2nodeBFunction	M

4.2.2.5 Attribute Mapping of the IOC *UtranRelation*Table 6: Attribute mapping of the IOC *UtranRelation*

IS Attribute	CMIP SS Attribute	Qualifier
utranRelationId	utranRelationId	M
relationType	relationType	M
adjacentCell	adjacentCell	M
uarfcnUI	uarfcnUI	O
uarfcnDI	uarfcnDI	O
primaryScramblingCode	primaryScramblingCode	O
primaryCpichPower	primaryCpichPower	O
lac	lac	O

4.2.2.6 Attribute Mapping of the IOC *ExternalUtranCell***Table 7: Attribute mapping of the IOC *ExternalUtranCell***

IS Attribute	CMIP SS Attribute	Qualifier
externalUtranCellId	externalUtranCellId	M
userLabel	userLabel	M
cId	cId	M
mcc	mcc	M
mnc	mnc	M
rnId	rnId	M
uarfcnUI	uarfcnUI	M
uarfcnDI	uarfcnDI	M
primaryScramblingCode	primaryScramblingCode	M
primaryCpichPower	primaryCpichPower	M
lac	lac	M
rac	rac	M

5 GDMO Definitions

5.1 Managed Object Classes

5.1.1 rncFunction

rncFunction **MANAGED OBJECT CLASS**
DERIVED FROM
 "3GPP TS 32.624 Release 5": managedFunction;
CHARACTERIZED BY
 rncFunctionBasicPackage,
 rncFunctionHandoverPackage;
REGISTERED AS {ts32-644ObjectClass 1};

5.1.2 utranCell

utranCell **MANAGED OBJECT CLASS**
DERIVED FROM
 "3GPP TS 32.624 Release 5": managedFunction;
CHARACTERIZED BY
 utranCellBasicPackage,
 utranCellHandoverPackage,
 utranCellAssociationPackage;
CONDITIONAL PACKAGES
 "3GPP TS 32.674 Release 5": operationalStateAttributePackage **PRESENT IF**
 "Instances of this MOC support operationalState attribute."
REGISTERED AS {ts32-644ObjectClass 2};

5.1.3 utranRelation

utranRelation **MANAGED OBJECT CLASS**
DERIVED FROM
 "Recommendation X.721: 1992":top;
CHARACTERIZED BY
 utranRelationBasicPackage,
 utranRelationAssociationPackage;
CONDITIONAL PACKAGES
 "Recommendation M.3100: 1995": createDeleteNotificationsPackage **PRESENT IF**
 "The objectCreation and the objectDeletion defined in Recommendation X.721 are supported by an instance of this class."
 "Recommendation M.3100: 1995": attributeValueChangeNotificationPackage **PRESENT IF**
 "The attributeValueChange notifications defined in Recommendation X.721 are supported by an instance of this class."
REGISTERED AS {ts32-644ObjectClass 3};

5.1.4 externalUtranCell

externalUtranCell **MANAGED OBJECT CLASS**
DERIVED FROM
 "3GPP TS 32.624 Release 5": managedFunction;
CHARACTERIZED BY
 externalUtranCellPackage;
REGISTERED AS {ts32-644ObjectClass 4};

5.1.5 iubLink

iubLink **MANAGED OBJECT CLASS**
DERIVED FROM

“3GPP TS 32.624 Release 5”: managedFunction;
CHARACTERIZED BY
 iubLinkBasicPackage,
 iubLinkAssociationPackage;

REGISTERED AS {ts32-644ObjectClass 5};

5.1.6 nodeBFunction

nodeBFunction **MANAGED OBJECT CLASS**

DERIVED FROM

“3GPP TS 32.624 Release 5”: managedFunction;

CHARACTERIZED BY

nodeBFunctionBasicPackage,
 nodeBFunctionAssociationPackage;

REGISTERED AS {ts32-644ObjectClass 6};

5.2 Packages

5.2.1 rncFunctionHandoverPackage

rncFunctionHandoverPackage **PACKAGE**

BEHAVIOUR

rncFunctionHandoverPackageBehaviour;

ATTRIBUTES

mcc GET-REPLACE,
 mnc GET-REPLACE,
 mncld GET-REPLACE;

REGISTERED AS {ts32-644Package 1};

rncFunctionHandoverPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This package contains all new attributes defined for UTRAN handover management. These attributes are introduced in R4.";

5.2.2 utranCellHandoverPackage

utranCellHandoverPackage **PACKAGE**

BEHAVIOUR

utranCellHandoverPackageBehaviour;

ATTRIBUTES

cld	GET-REPLACE,
localCellId	GET-REPLACE,
uarfcnUI	GET-REPLACE,
uarfcnDI	GET-REPLACE,
primaryScramblingCode	GET-REPLACE,
primaryCpichPower	GET-REPLACE,
maximumTransmissionPower	GET-REPLACE,
primarySchPower	GET-REPLACE,
secondarySchPower	GET-REPLACE,
bchPower	GET-REPLACE,
lac	GET-REPLACE,
rac	GET-REPLACE,
sac	GET-REPLACE,
ura	GET-REPLACE;

REGISTERED AS {ts32-644Package 2};

utranCellHandoverPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This package contains all new attributes defined for UTRAN handover management. These attributes are introduced in R4.";

5.2.3 utranRelationBasicPackage

utranRelationBasicPackage **PACKAGE**

BEHAVIOUR

utranRelationBasicPackageBehaviour;

ATTRIBUTES

utranRelationId	GET,
relationType	GET-REPLACE,
uarfcnUl	GET,
uarfcnDl	GET,
primaryScramblingCode	GET,
primaryCpichPower	GET,
lac	GET;

REGISTERED AS {ts32-644Package 3};

utranRelationBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

"The 'UtranRelation' managed object contains radio network related parameters for the relation to the 'UtranCell' or 'ExternalUtranCell' managed object. Note: In handover relation terms, the cell containing the UTRAN Relation object is the source cell for the handover. The cell referred to in the UTRAN relation object is the target cell for the handover. This defines a one-way handover relation where the direction is from source cell to target cell.";

5.2.4 utranRelationAssociationPackage

utranRelationAssociationPackage **PACKAGE**

BEHAVIOUR

utranRelationAssociationPackageBehaviour;

ATTRIBUTES

adjacentCell	GET-REPLACE;
--------------	--------------

REGISTERED AS {ts32-644Package 4};

utranRelationAssociationPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This package contains all attributes implementing associations related to an utranRelation";

5.2.5 externalUtranCellPackage

externalUtranCellPackage **PACKAGE**

BEHAVIOUR

externalUtranCellPackageBehaviour;

ATTRIBUTES

externalUtranCellId	GET,
cld	GET-REPLACE,
mcc	GET-REPLACE,
mnc	GET-REPLACE,
rnclId	GET-REPLACE,
uarfcnUl	GET-REPLACE,
uarfcnDl	GET-REPLACE,
primaryScramblingCode	GET-REPLACE,
primaryCpichPower	GET-REPLACE,
lac	GET-REPLACE,
rac	GET-REPLACE;

REGISTERED AS {ts32-644Package 5};

externalUtranCellPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This Managed Object Class represents a radio cell controlled by another IRP Agent. It a necessary attribute for inter-system handover. This MOC is a subreplication of a MOC in another NEM.";

5.2.6 rncFunctionBasicPackage

rncFunctionBasicPackage **PACKAGE**
BEHAVIOUR
 rncFunctionBasicPackageBehaviour;
ATTRIBUTES
 rncFunctionId GET;
REGISTERED AS {ts32-644Package 6};

rncFunctionBasicPackageBehaviour **BEHAVIOUR**
DEFINED AS
 "The MOC rncFunction represents UMTS RNC function.";

5.2.7 utranCellBasicPackage

utranCellBasicPackage **PACKAGE**
BEHAVIOUR
 utranCellBasicPackageBehaviour;
ATTRIBUTES
 utranCellId GET;
REGISTERED AS {ts32-644Package 7};

utranCellBasicPackageBehaviour **BEHAVIOUR**
DEFINED AS
 "This managed object class represents the radio cell controlled by a RNC.";

5.2.8 utranCellAssociationPackage

utranCellAssociationPackage **PACKAGE**
BEHAVIOUR
 utranCellAssociationPackageBehaviour;
ATTRIBUTES
 utranCell2iubLink GET;
REGISTERED AS {ts32-644Package 8};

utranCellAssociationPackageBehaviour **BEHAVIOUR**
DEFINED AS
 "This package contains the pointer attributes that implement associations related to utranCell.";

5.2.9 iubLinkBasicPackage

iubLinkBasicPackage **PACKAGE**
BEHAVIOUR
 iubLinkBasicPackageBehaviour;
ATTRIBUTES
 iubLinkId GET;
REGISTERED AS {ts32-644Package 9};

iubLinkBasicPackageBehaviour **BEHAVIOUR**
DEFINED AS
 "This managed object class models the Iub Link between a Node-B and a RNC.";

5.2.10 iubLinkAssociation

iubLinkAssociationPackage **PACKAGE**
BEHAVIOUR
 iubLinkAssociationPackageBehaviour;
ATTRIBUTES
 iubLink2nodeBFunction GET,
 iubLink2utranCell GET;

REGISTERED AS {ts32-644Package 10};

iubLinkAssociationPackageBehaviour **BEHAVIOUR**

DEFINED AS

"The attribute 'iubLink2NodeBFunction' points to the nodeBFunction instance which this iubLink instance connects to. The attribute 'iubLink2utranCell' points to a list of utranCell instances which attach to the nodeBFunction this iubLink connects to.";

5.2.11 nodeBFunctionBasicPackage

nodeBFunctionBasicPackage **PACKAGE**

BEHAVIOUR

nodeBFunctionBasicPackageBehaviour;

ATTRIBUTES

nodeBFunctionId GET;

REGISTERED AS {ts32-644Package 11};

nodeBFunctionBasicPackageBehaviour **BEHAVIOUR**

DEFINED AS

"This managed object class represents the NodeB functionality.";

5.2.12 nodeBFunctionAssociationPackage

nodeBFunctionAssociationPackage **PACKAGE**

BEHAVIOUR

nodeBFunctionAssociationPackageBehaviour;

ATTRIBUTES

nodeB2iubLink GET;

REGISTERED AS {ts32-644Package 12};

nodeBFunctionAssociationPackageBehaviour **BEHAVIOUR**

DEFINED AS

"The attribute 'nodeB2iubLink' points to the iubLink instance which connects to this nodeBFunction instance directly.";

5.3 Attributes

5.3.1 mcc

mcc **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.MobileCountryCode;

MATCHES FOR EQUALITY;

BEHAVIOUR

mccBehaviour;

REGISTERED AS {ts32-644Attribute 1};

mccBehaviour **BEHAVIOUR**

DEFINED AS

"Mobile Country Code, MCC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";

5.3.2 mnc

mnc **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.MobileNetworkCode;

MATCHES FOR EQUALITY;

BEHAVIOUR

mncBehaviour;
REGISTERED AS {ts32-644Attribute 2};

mncBehaviour **BEHAVIOUR**
DEFINED AS

"Mobile Network Code, MNC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";

5.3.3 rncId

rncId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

rncIdBehaviour;

REGISTERED AS {ts32-644Attribute 3};

rncIdBehaviour **BEHAVIOUR**

DEFINED AS

"Unique RNC ID (Ref. 3 GPP TS 23.003).";

5.3.4 cId

cId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

cIdBehaviour;

REGISTERED AS {ts32-644Attribute 4};

cIdBehaviour **BEHAVIOUR**

DEFINED AS

"cId is the identifier of a cell in one RNC (Ref. 3 GPP TS 25.401).";

5.3.5 localCellId

localCellId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

localCellIdBehaviour;

REGISTERED AS {ts32-644Attribute 5};

localCellIdBehaviour **BEHAVIOUR**

DEFINED AS

"Local Cell id is used to uniquely identify the set of resources defined in a Node B to support a cell (as defined by a Cid Ref. 3 GPP TS 25.401). It must be unique in Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the RNC to a specific set of resources in the Node B.";

5.3.6 uarfcnUI

uarfcnUI **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.UarfcnUI;

MATCHES FOR EQUALITY;

BEHAVIOUR

uarfcnUIBehaviour;

REGISTERED AS {ts32-644Attribute 6};

uarfcnUIBehaviour **BEHAVIOUR**
DEFINED AS

"The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3 GPP TS 25.433).";

5.3.7 uarfcnDI

uarfcnDI **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.UarfcnDI;

MATCHES FOR EQUALITY;

BEHAVIOUR

uarfcnDIBehaviour;

REGISTERED AS {ts32-644Attribute 7};

uarfcnDIBehaviour **BEHAVIOUR**
DEFINED AS

"The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3 GPP TS 25.433).";

5.3.8 primaryScramblingCode

primaryScramblingCode **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.PrimaryScramblingCode;

MATCHES FOR EQUALITY;

BEHAVIOUR

primaryScramblingCodeBehaviour;

REGISTERED AS {ts32-644Attribute 8};

primaryScramblingCodeBehaviour **BEHAVIOUR**
DEFINED AS

"The primary DL scrambling code used by the cell (Ref. 3 GPP TS 25.433).";

5.3.9 primaryCpichPower

primaryCpichPower **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.PrimaryCpichPower;

MATCHES FOR EQUALITY;

BEHAVIOUR

primaryCpichPowerBehaviour;

REGISTERED AS {ts32-644Attribute 9};

primaryCpichPowerBehaviour **BEHAVIOUR**
DEFINED AS

"The power of the primary CPICH channel in the cell (Ref. 3 GPP TS 25.433).";

5.3.10 maximumTransmissionPower

maximumTransmissionPower **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.MaximumTransmissionPower;

MATCHES FOR EQUALITY;

BEHAVIOUR

maximumTransmissionPowerBehaviour;

REGISTERED AS {ts32-644Attribute 10};

maximumTransmissionPowerBehaviour **BEHAVIOUR**
DEFINED AS

"The maximum transmission power of a cell, DL Power (Ref. 3 GPP TS 25.433).";

5.3.11 primarySchPower

primarySchPower **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.PrimarySchPower;
MATCHES FOR EQUALITY;
BEHAVIOUR
 primarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 11};

primarySchPowerBehaviour **BEHAVIOUR**
DEFINED AS
 "The power of the primary synchronisation channel in the cell, DL Power (Ref. 3 GPP TS 25.433).";

5.3.12 secondarySchPower

secondarySchPower **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.SecondarySchPower;
MATCHES FOR EQUALITY;
BEHAVIOUR
 secondarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 12};

secondarySchPowerBehaviour **BEHAVIOUR**
DEFINED AS
 "The power of the secondary synchronisation channel in the cell, DL Power (Ref. 3 GPP TS 25.433).";

5.3.13 bchPower

bchPower **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.BchPower;
MATCHES FOR EQUALITY;
BEHAVIOUR
 bchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 13};

bchPowerBehaviour **BEHAVIOUR**
DEFINED AS
 "The power of the broadcast channel in the cell (Ref. 3 GPP TS 25.433).";

5.3.14 lac

lac **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.LocationAreaCode;
MATCHES FOR EQUALITY;
BEHAVIOUR
 lacBehaviour;
REGISTERED AS {ts32-644Attribute 14};

lacBehaviour **BEHAVIOUR**
DEFINED AS
 "Location Area Code, LAC (Ref. 3 GPP TS 23.003)";

5.3.15 rac

rac **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.Rac;
MATCHES FOR EQUALITY;
BEHAVIOUR

racBehaviour;
REGISTERED AS {ts32-644Attribute 15};

racBehaviour **BEHAVIOUR**
DEFINED AS
"Routing Area Code, RAC (Ref. 3 GPP TS 23.003)";

5.3.16 sac

sac **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.Sac;
MATCHES FOR EQUALITY;
BEHAVIOUR

sacBehaviour;
REGISTERED AS {ts32-644Attribute 16};

sacBehaviour **BEHAVIOUR**
DEFINED AS
"Service Area Code, RAC (Ref. 3 GPP TS 23.003)";

5.3.17 ura

ura **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.Ura;
MATCHES FOR EQUALITY;
BEHAVIOUR

uraBehaviour;
REGISTERED AS {ts32-644Attribute 17};

uraBehaviour **BEHAVIOUR**
DEFINED AS
"UTRAN Registration Area, URA (Ref. 3 GPP TS 25.423)";

5.3.18 utranRelationId

utranRelationId **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR

utranRelationIdBehaviour;
REGISTERED AS {ts32-644Attribute 18};

utranRelationIdBehaviour **BEHAVIOUR**
DEFINED AS
"This attribute identifies an utranRelation object.";

5.3.19 relationType

relationType **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.RelationType;
MATCHES FOR EQUALITY;
BEHAVIOUR
relationTypeBehaviour;

REGISTERED AS {ts32-644Attribute 19};

relationTypeBehaviour **BEHAVIOUR**
DEFINED AS

"Type of relation: e.g. Intersystem relation, intrafrequency intrasystem relation, interfrequency intrasystem relation.";

5.3.20 adjacentCell

adjacentCell **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectPointer;

MATCHES FOR EQUALITY;

BEHAVIOUR

adjacentCellBehaviour;

REGISTERED AS {ts32-644Attribute 20};

adjacentCellBehaviour **BEHAVIOUR**
DEFINED AS

"Pointer to UTRAN cell or external UTRAN cell. Distinguished name of the corresponding object.";

5.3.21 externalUtranCellId

externalUtranCellId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

adjacentCellBehaviour;

REGISTERED AS {ts32-644Attribute 21};

externalUtranCellIdBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute identifies an externalUtranCell object.";

5.3.22 rncFunctionId

rncFunctionId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

rncFunctionIdBehaviour;

REGISTERED AS {ts32-644Attribute 22};

rncFunctionIdBehaviour **BEHAVIOUR**
DEFINED AS

"This attribute names an instance of the 'rncFunction' object class.";

5.3.23 utranCellId

utranCellId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;

BEHAVIOUR

utranCellIdBehaviour;

REGISTERED AS {ts32-644Attribute 23};

utranCellIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute names an instance of the 'utranCell' object class.";

5.3.24 utranCell2iubLink

utranCell2iubLink **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.GeneralObjectPointer;
MATCHES FOR EQUALITY;
BEHAVIOUR
utranCell2iubLinkBehaviour;
REGISTERED AS {ts32-644Attribute 24};

utranCell2iubLinkBehaviour **BEHAVIOUR**
DEFINED AS
"This attribute points to the iubLink instance connecting to this utranCell. ";

5.3.25 iubLinkId

iubLinkId **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX TS32-644TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
iubLinkIdBehaviour;
REGISTERED AS {ts32-644Attribute 25};

iubLinkIdBehaviour **BEHAVIOUR**
DEFINED AS
"This attribute names an instance of the 'iubLink' object class.";

5.3.26 iubLink2nodeBFunction

iubLink2nodeBFunction **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.GeneralObjectPointer;
MATCHES FOR EQUALITY;
BEHAVIOUR
iubLink2nodeBFunctionBehaviour;
REGISTERED AS {ts32-644Attribute 26};

iubLink2nodeBFunctionBehaviour **BEHAVIOUR**
DEFINED AS
"This attribute points to the nodeBFunction instance which this iubLink instance connects directly to.";

5.3.27 iubLink2utranCell

iubLink2utranCell **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
TS32-644TypeModule.GeneralObjectPointerList;
MATCHES FOR EQUALITY;
BEHAVIOUR
iubLink2utranCellBehaviour;
REGISTERED AS {ts32-644Attribute 27};

iubLink2utranCellBehaviour **BEHAVIOUR**
DEFINED AS
"This attribute points from an iubLink instance to a list of utranCell instance";

5.3.28 nodeBFunctionId

nodeBFunctionId **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
 nodeBFunctionIdBehaviour;
REGISTERED AS {ts32-644Attribute 28};

nodeBFunctionIdBehaviour **BEHAVIOUR**
DEFINED AS
 "This attribute names an instance of the 'nodeBFunction' object class.";

5.3.29 nodeBFunction2iubLink

nodeBFunction2iubLink **ATTRIBUTE**
WITH ATTRIBUTE SYNTAX
 TS32-644TypeModule.GeneralObjectPointer;
MATCHES FOR EQUALITY;
BEHAVIOUR
 nodeBFunction2iubLinkBehaviour;
REGISTERED AS {ts32-644Attribute 29};

nodeBFunction2iubLinkBehaviour **BEHAVIOUR**
DEFINED AS
 "This attribute points to the IubLink instance which connects to the related nodeBFunction instance directly.";

5.4 Name Binding

5.4.1 rncFunction - managedElement

rncFunction-managedElement **NAME BINDING**
SUBORDINATE OBJECT CLASS
 rncFunction;
NAMED BY SUPERIOR OBJECT CLASS
 "3GPP TS 32.624 Release 5": managedElement;
WITH ATTRIBUTE
 rncFunctionId;
BEHAVIOUR
 rncFunction-managedElementBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 1};

rncFunction-managedElementBehaviour **BEHAVIOUR**
DEFINED AS
 "The name binding represents a relationship in which a managedElement contains and controls a rncFunction. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

5.4.2 nodeBFunction - managedElement

nodeBFunction-managedElement **NAME BINDING**
SUBORDINATE OBJECT CLASS
 nodeBFunction;
NAMED BY SUPERIOR OBJECT CLASS
 "3GPP TS 32.624 Release 5": managedElement;
WITH ATTRIBUTE
 nodeBFunctionId;
BEHAVIOUR
 nodeBFunction-managedElementBehaviour;

**CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS** {ts32-644NameBinding 2};

nodeBFunction-managedElementBehaviour **BEHAVIOUR
DEFINED AS**

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

5.4.3 utranCell - rncFunction

utranCell-rncFunction **NAME BINDING
SUBORDINATE OBJECT CLASS**
utranCell;
NAMED BY SUPERIOR OBJECT CLASS
rncFunction;
WITH ATTRIBUTE
utranCellId;
BEHAVIOUR
utranCell-rncFunctionBehaviour;
**CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS** {ts32-644NameBinding 3};

utranCell-rncFunctionBehaviour **BEHAVIOUR
DEFINED AS**

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

5.4.4 utranRelation - utranCell

utranRelation-utranCell **NAME BINDING
SUBORDINATE OBJECT CLASS**
utranRelation;
NAMED BY SUPERIOR OBJECT CLASS
utranCell;
WITH ATTRIBUTE
utranRelationId;
BEHAVIOUR
utranRelation-utranCellBehaviour;
**CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS** {ts32-644NameBinding 4};

utranRelation-utranCellBehaviour **BEHAVIOUR
DEFINED AS**

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

5.4.5 externalUtranCell - subNetwork

externalUtranCell-subNetwork **NAME BINDING
SUBORDINATE OBJECT CLASS**
externalUtranCell;
NAMED BY SUPERIOR OBJECT CLASS
"3GPP TS 32.624 Release 5": subNetwork;
WITH ATTRIBUTE
externalUtranCellId;
BEHAVIOUR
externalUtranCell-subNetworkBehaviour;
**CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS** {ts32-644NameBinding 5};

externalUtranCell-subNetworkBehaviour **BEHAVIOUR**

DEFINED AS

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

5.4.6

5.4.10 iubLink - rncFunction

iubLink-rncFunction **NAME BINDING**

SUBORDINATE OBJECT CLASS

iubLink;

NAMED BY SUPERIOR OBJECT CLASS

rncFunction;

WITH ATTRIBUTE

iubLinkId;

BEHAVIOUR

iubLink-rncFunctionBehaviour;

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

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-644NameBinding 10};

iubLink-rncFunctionBehaviour **BEHAVIOUR**

DEFINED AS

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

5.4.10 gsmRelation - utranCell

gsmRelation-utranCell **NAME BINDING**

SUBORDINATE OBJECT CLASS

"3GPP TS 32.654 Release 5": gsmRelation;

NAMED BY SUPERIOR OBJECT CLASS

utranCell;

WITH ATTRIBUTE

"3GPP TS 32.654 Release 5": gsmRelationId;

BEHAVIOUR

gsmRelation-utranCellBehaviour;

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

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-644NameBinding 11};

gsmRelation-utranCellBehaviour **BEHAVIOUR**

DEFINED AS

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

6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0) umts-Operation-
Maintenance (3) ts32-644 (644) informationModel (0) asnlModule (2) version1 (1)}
```

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

```
--EXPORTS everything
```

```
IMPORTS
```

```
GeneralObjectId, GeneralObjectPointer, GeneralObjectPointerList
  FROM TS32-624TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0)
  umts-Operation-Maintenance (3) ts32-624 (624) informationModel (0) asnlModule (2) version1 (1)}
```

```
MobileCountryCode, MobileNetworkCode, LocationAreaCode
  FROM GSM1220TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Operation-Maintenance (3) gsm-12-20 (20) informationModel (0) asnlModule (2)
  asnlTypeModule (0)};
```

```
-- 3GPP TS 32.644 related Object Identifiers
```

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

ts32-644              OBJECT IDENTIFIER ::= { baseNodeUMTS ts32-644                (644)}
ts32-644InfoModel     OBJECT IDENTIFIER ::= { ts32-644 informationModel            ( 0)}

ts32-644ObjectClass  OBJECT IDENTIFIER ::= { ts32-644InfoModel managedObjectClass ( 3)}
ts32-644Package       OBJECT IDENTIFIER ::= { ts32-644InfoModel package           ( 4)}
ts32-644Parameter     OBJECT IDENTIFIER ::= { ts32-644InfoModel parameter         ( 5)}
ts32-644NameBinding   OBJECT IDENTIFIER ::= { ts32-644InfoModel nameBinding       ( 6)}
ts32-644Attribute     OBJECT IDENTIFIER ::= { ts32-644InfoModel attribute         ( 7)}
ts32-644Action        OBJECT IDENTIFIER ::= { ts32-644InfoModel action           ( 9)}
ts32-644Notification OBJECT IDENTIFIER ::= { ts32-644InfoModel notification      (10)}
```

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

```
UarfcnUl ::= INTEGER
```

```
UarfcnDl ::= INTEGER
```

```
PrimaryScramblingCode ::= INTEGER
```

```
PrimaryCpichPower ::= INTEGER
```

```
MaximumTransmissionPower ::= INTEGER
```

```
PrimarySchPower ::= INTEGER
```

```
SecondarySchPower ::= INTEGER
```

```
BchPower ::= INTEGER
```

```
Lac ::= INTEGER
```

```
Rac ::= INTEGER
```

```
Sac ::= INTEGER
```

```
Ura ::= INTEGER
```

```
RelationType ::= ENUMERATED
{
  interSystem (1),
  intraFrequencyIntraSystem (2),
  interFrequencyIntraSystem (3)
}
```

```
END -- of TS32-644TypeModule
```

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
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2002	--	--	--	--	Cosmetics/Styles	4.1.0	4.1.1
Dec 2002	S_18	SP-020749	007	--	Alignment of the CMIP SS with the Rel-5 version of the IS in 32.642	4.1.1	5.0.0

History

Document history		
V5.0.0	December 2002	Publication