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Technical Specification

**Universal Mobile Telecommunications System (UMTS);
Telecommunication management;
Configuration Management (CM);
UTRAN network resources Integration Reference Point (IRP):
Common Management Information Protocol (CMIP)
solution set
(3GPP TS 32.644 version 4.3.0 Release 4)**



Reference

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Foreword

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Introduction

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 Model (NRM) parts of R99 Basic CM IRP (Generic, Core Network and UTRAN NRM). These IRPs are named "Network Resources IRP".

Further, the Notification IRP (in Release 1999: 32.106-1 to -4) and the Name convention for Managed Objects (in Release 1999: 32.106-8) have been moved to a separate number series used for specifications common between several management areas (e.g. CM, FM, PM).

Finally, in addition to the restructuring mentioned above, the need to define some new functionality and IRPs for CM compared to Release 1999, has also been identified. Firstly, a new Bulk CM IRP, and secondly a GERAN Network Resources IRP, have been created. Thirdly, the Generic, UTRAN and GERAN Network Resources IRPs have been extended with support for GSM-UMTS Inter-system handover (ISH), and the 32.600 [10] (Concept and High-level Requirements) has been modified to cover the high-level Bulk CM and ISH requirements.

Table: Mapping between Release '99 and the new specification numbering scheme

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	Notification IRP: Requirements
32.106-2	Notification IRP: IS	32.302	Notification IRP: Information Service
32.106-3	Notification IRP: CORBA SS	32.303	Notification IRP: CORBA SS
32.106-4	Notification IRP: CMIP SS	32.304	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	Basic CM IRP: Requirements
32.106-5	Basic CM IRP IM (Intro & IS part)	32.602	Basic CM IRP: Information Service
32.106-6	Basic CM IRP CORBA SS (IS related part)	32.603	Basic CM IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (IS related part)	32.604	Basic CM IRP: CMIP SS
32.106-8	Name convention for Managed Objects	32.300	Name Convention for Managed Objects
-	-	32.611	Bulk CM IRP: Requirements
-	-	32.612	Bulk CM IRP: Information Service
-	-	32.613	Bulk CM IRP: CORBA SS
-	-	32.614	Bulk CM IRP: CMIP SS
		32.615	Bulk CM IRP: XML file format definition
32.106-1	<Basic CM IRP Generic NRM requirements from 32.106-1 and 32.106-5>	32.621	Generic Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (Generic NRM part)	32.622	Generic Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (Generic NRM related part)	32.623	Generic Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (Generic NRM related part)	32.624	Generic Network Resources IRP: CMIP SS
32.106-1	<Basic CM IRP CN NRM requirements from 32.106-1 and 32.106-5>	32.631	Core Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (CN NRM part)	32.632	Core Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (CN NRM related part)	32.633	Core Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (CN NRM related part)	32.634	Core Network Resources IRP: CMIP SS
32.106-1	<Basic CM IRP UTRAN NRM requirements from 32.106-1 and 32.106-5>	32.641	UTRAN Network Resources IRP: Requirements
32.106-5	Basic CM IRP IM (UTRAN NRM part)	32.642	UTRAN Network Resources IRP: NRM
32.106-6	Basic CM IRP CORBA SS (UTRAN NRM related part)	32.643	UTRAN Network Resources IRP: CORBA SS
32.106-7	Basic CM IRP CMIP SS (UTRAN NRM related part)	32.644	UTRAN Network Resources IRP: CMIP SS
		32.651	GERAN Network Resources IRP: Requirements
		32.652	GERAN Network Resources IRP: NRM
		32.653	GERAN Network Resources IRP: CORBA SS
		32.654	GERAN Network Resources IRP: CMIP SS

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 [4]. 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: "Telecommunication management; Principles and high level requirements".
- [2] 3GPP TS 32.102: "Telecommunication management; Architecture".
- [3] 3GPP TS 32.304: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".
- [4] 3GPP TS 32.642: "Telecommunication management; Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
- [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".
- [10] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

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 [10] and 3GPP TS 32.632 [4] 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
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	Universal Terrestrial Radio Access Network

4 Basic aspects

4.1 Explanation

A technology independent UTRAN network resource model is defined in 3GPP TS 32.642 [4] for 3G networks. The present 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 [4]. 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 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 MOCs

Information Objects of the Generic UTAN IRP NRM	MOCs of this CMIP SS
RncFunction	rncFunction
UtranCell	utranCell
IubLink	iubLink
NodeBFunction	nodeBFunction
UtranRelation	utranRelation
ExternalUtranCell	externalUtranCell

4.2.2 Mapping of Attributes

Table 2: Mapping of Attributes

Attribute defined in 3GPP TS 32.642 [4]	Attribute defined in this CMIP SS
rncFunctionId	rncFunctionId
userLabel	userLabel (ITU-T M.3100 1995)
nodeBFunctionId	nodeBFunctionId
nodeBFunction-IubLink	nodeB2iubLink
utranCellId	utranCellId
utranCell-IubLink	utranCell2iubLink
iubLinkId	iubLinkId
iubLink-UtranCell	iubLink2UtranCell
iubLink-NodeBFunction	iubLink2NodeBFunction
mcc	mcc
mnc	mnc
rnclId	rnclId
cld	cld
localCellId	localCellId
uarfcnUI	uarfcnUI
uarfcnDI	uarfcnDI
primaryScramblingCode	primaryScramblingCode
primaryCpichPower	primaryCpichPower
maximumTransmissionPower	maximumTransmissionPower
primarySchPower	primarySchPower
secondarySchPower	secondarySchPower
bchPower	bchPower
lac	lac
rac	rac
sac	sac
uraList	uraList
utranRelationId	utranRelationId
adjacentCell	adjacentCell
uarfcnUI	uarfcnUI
uarfcnDI	uarfcnDI
primaryScramblingCode	primaryScramblingCode
primaryCpichPower	primaryCpichPower
externalUtranCellId	externalUtranCellId

5 GDMO Definitions

5.1 Managed Object Classes

5.1.1 rncFunction

rncFunction MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.624 Release 4”: 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 4”: managedFunction;

CHARACTERIZED BY

utranCellBasicPackage,

utranCellHandoverPackage,

utranCellAssociationPackage;

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 4”: managedFunction;

CHARACTERIZED BY

externalUtranCellPackage;

REGISTERED AS {ts32-644ObjectClass 4};

5.1.5 iubLink

iubLink MANAGED OBJECT CLASS

DERIVED FROM “3GPP TS 32.624 Release 4”: 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 4”: 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,

mcId 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

cId 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,
uraList 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,
uarfcnUI GET,
uarfcnDI 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,
cId GET-REPLACE,
mcc GET-REPLACE,
mnc GET-REPLACE,
rncId GET-REPLACE,
uarfcnUI GET-REPLACE,
uarfcnDI 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 IRPAgent. 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.RncId;
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.CId;
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.LocalCellId;
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).";

5.3.7a 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).";

5.3.8 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).";

5.3.9 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).";

5.3.10 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).";

5.3.11 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).";

5.3.12 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).";

5.3.13 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)";

5.3.14 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)";

5.3.15 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)";

5.3.16 uraList

uraList ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-644TypeModule.UraList;

MATCHES FOR EQUALITY;

BEHAVIOUR

uraListBehaviour;

REGISTERED AS {ts32-644Attribute 17};

uraListBehaviour BEHAVIOUR

DEFINED AS

"List of UTRAN Registration Area, URA (Ref. 3 GPP TS 25.331)";

5.3.17 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.";

5.3.18 relationType

Void.

5.3.19 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." ;

5.3.20 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.";

5.3.21 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.";

5.3.22 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.";

5.3.23 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. " ;

5.3.24 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.";

5.3.25 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.";

5.3.26 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";

5.3.27 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.";

5.3.28 nodeB2iubLink

nodeB2iubLink ATTRIBUTE

WITH ATTRIBUTE SYNTAX TS32-644TypeModule.GeneralObjectPointer;

MATCHES FOR EQUALITY;

BEHAVIOUR

nodeB2iubLinkBehaviour;

REGISTERED AS {ts32-644Attribute 29};

nodeB2iubLinkBehaviour 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 Release4": 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 Release4": 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 Release4": `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 vsDataContainer - rncFunction

vsDataContainer-rncFunction NAME BINDING

SUBORDINATE OBJECT CLASS "3GPP TS 32.624 Release4": vsDataContainer;
NAMED BY SUPERIOR OBJECT CLASS rncFunction;
WITH ATTRIBUTE vsDataContainerId;
BEHAVIOUR
vsDataContainer-rncFunctionBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 6};

vsDataContainer-rncFunctionBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a rncFunction contains and controls a vsDataContainer. When automatic instance naming is used, the choice of name bindings is left as a local matter. This containment relation shall be used only with BulkCmIRP CMIP SS defined in 3GPP TS 32.614 Release 4.";

5.4.7 vsDataContainer - nodeBFunction

vsDataContainer-nodeBFunction NAME BINDING

SUBORDINATE OBJECT CLASS "3GPP TS 32.624 Release4": vsDataContainer;;
NAMED BY SUPERIOR OBJECT CLASS nodeBFunction;
WITH ATTRIBUTE "3GPP TS 32.624 Release4": vsDataContainerId;
BEHAVIOUR
vsDataContainer-nodeBFunctionBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 7};

vsDataContainer-nodeBFunctionBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a nodeBFunction contains and controls a vsDataContainer. When automatic instance naming is used, the choice of name bindings is left as a local matter. This containment relation shall be used only with BulkCmIRP CMIP SS defined in 3GPP TS 32.614 Release 4.";

5.4.8 vsDataContainer - utranCell

vsDataContainer-utranCell NAME BINDING

SUBORDINATE OBJECT CLASS "3GPP TS 32.624 Release4": vsDataContainer;;
NAMED BY SUPERIOR OBJECT CLASS utranCell;

WITH ATTRIBUTE “3GPP TS 32.624 Release4”: vsDataContainerId;
BEHAVIOUR

vsDataContainer-utranCellBehaviour;

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

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-644NameBinding 8};

vsDataContainer-utranCellBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a utranCell contains and controls a vsDataContainer. When automatic instance naming is used, the choice

of name bindings is left as a local matter. This containment relation shall be used only with BulkCmIRP CMIP SS defined in 3GPP TS 32.614 Release 4.";

5.4.9 vsDataContainer - utranRelation

vsDataContainer-utranRelation NAME BINDING

SUBORDINATE OBJECT CLASS “3GPP TS 32.624 Release4”: vsDataContainer;;

NAMED BY SUPERIOR OBJECT CLASS utranRelation;

WITH ATTRIBUTE “3GPP TS 32.624 Release4”: vsDataContainerId;

BEHAVIOUR

vsDataContainer-utranRelationBehaviour;

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

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-644NameBinding 9};

vsDataContainer-utranRelationBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a utranRelation contains and controls a vsDataContainer. When automatic instance naming is used, the choice

of name bindings is left as a local matter. This containment relation shall be used only with BulkCmIRP CMIP SS defined in 3GPP TS 32.614 Release 4.";

5.4.10 iubLink - rncFunction

iubLink-rncFunction NAME BINDING

SUBORDINATE OBJECT CLASS iubLink;

NAMED BY SUPERIOR OBJECT CLASS rncFunction;

WITH ATTRIBUTE iubLinkId;

BEHAVIOUR

iubLink-rncFunctionBahaviour;

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

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-644NameBinding 10};

iubLink-rncFunctionBahaviour 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.";

6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt (0) identified-organization (4) etsi (0)
    mobileDomain (0) umts-Operation-Maintenance (3) ts32-644 (644)
    informationModel (0) asn1Module (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) asn1Module (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) asn1Module (2)
    asn1TypeModule (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
```

```
RncId ::= INTEGER
```

```
Cid ::= INTEGER
```

LocalCellId ::= INTEGER
UarfcnUl ::= INTEGER
UarfcnDl ::= INTEGER
PrimaryScramblingCode ::= INTEGER
PrimaryCpichPower ::= INTEGER
MaximumTransmissionPower ::= INTEGER
PrimarySchPower ::= INTEGER
SecondarySchPower ::= INTEGER
BchPower ::= INTEGER
Lac ::= INTEGER
Rac ::= INTEGER
Sac ::= INTEGER
UraList ::= SET OF INTEGER

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
Jun 2003	S_20	SP-030283	002	--	Removal of relationType	4.1.1	4.2.0
Dec 2003	S_22	SP-030646	008	--	Correction of the number of possible URAs from 1 to 8	4.2.0	4.3.0

History

Document history		
V4.0.0	June 2001	Publication
V4.1.0	September 2001	Publication (Withdrawn)
V4.1.1	September 2002	Publication
V4.2.0	June 2003	Publication
V4.3.0	December 2003	Publication