Technical Specification Group Services and System Aspects
Meeting #17, Biarritz, France, 9-12 September 2002

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Source: **SA5 (Telecom Management)**

Title: **Rel-5 CR 32.643 (UTRAN network resources Integration Reference Point (IRP): CORBA solution set) - Upgrade to Rel-5**

Document for: **Approval**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	Rev	Phase	Subject	Cat	Version-	Doc-2nd-	Workitem
SP-020493	32.643	002	-	Rel-5	**Upgrade to Rel-5**	C	4.1.0	S5-026709	OAM-NIM

3GPP TSG-SA5 (Telecom Management) Meeting #30 **S5-026709**
Tampere, Finland, 19 – 23 August 2002

CR-Form-v7

CHANGE REQUEST

⌘ **32.643** **CR** **002** ⌘ **rev** **-** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Upgrade to Rel-5
Source:	⌘	S5
Work item code:	⌘	OAM-NIM
Date:	⌘	23/08/2002
Category:	⌘	**C**
Release:	⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Update the UTRAN NRM CORBA SS for Release 4 to meet Release 5 documentation conventions, terminlogy, and methodology
Summary of change:	⌘	• Changed references to IS MOC to IS IOC • Removed Release 4 references
Consequences if not approved:	⌘	The UTRAN CORBA solution set will not be consistent with Rel-5 document concentions and terminology. The UTRAN NRM CORBA Solution Set (32.643) will be inconsistent with the Rel-5 UTRAN NRM (32.642)

Clauses affected:	⌘	Introduction, Scope, Definitions and Abbreviations, 4, 5, and 6

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

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 NEs and NRs, and they may be initiated by the operator or functions in the OSs or NEs.

CM actions may be requested as part of an implementation programme (e.g. additions and deletions), as part of an optimisation programme (e.g. modifications), and to maintain the overall Quality of Service. The CM actions are initiated either as a single action on a Network Element (NE) of the 3G network or as part of a complex procedure involving actions on many NEs.

The Itf-N interface for Configuration Management 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].For CM, a number of IRPs (and the Name Convention) are defined herein, used by this as well as other technical specifications for telecom management produced by 3GPP.

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 an 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 (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 purpose of this UTRAN Network Resources IRP: CORBA Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.642 [4]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment.

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

:

3 Definitions and abbreviations

3.1 Definitions

For terms and definitions please refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.600 [3] and 3GPP TS 32.642 [4].

3.2 Abbreviations

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

CORBA	Common Object Request Broker Architecture
DN	Distinguished Name
IS	Information Service
IDL	Interface Definition Language (OMG)
IOC	Information Object Class
IRP	Integration Reference Point
MO	Managed Object
MOC	Managed Object Class
NRM	Network Resource Model
OMG	Object Management Group
SS	Solution Set

4 Architectural features

The overall architectural feature of UTRAN Network Resources IRP -is specified in 3GPP TS 32.642[4].
This clause specifies features that are specific to the CORBA SS.

4.1 Notifications

Notifications are sent according to the Notification IRP: CORBA SS (see 3GPP TS 32.303 [9]).

5 Mapping

5.1 General mappings

The IS parameter name managedObjectInstance is mapped into DN.

Attributes modelling associations as defined in the NRM (here also called “reference attributes”) are in this SS mapped to attributes. The names of the reference attributes in the NRM are mapped to the corresponding attribute names in the MOC. When the cardinality for an association is 0..1 or 1..1 the datatype for the reference attribute is defined as an

MOReference. The value of an MO reference contains the distinguished name of the associated MO. When the cardinality for an association allows more than one referred MO, the reference attribute will be of type MOReferenceSet, which contains a sequence of MO references.

If a reference attribute is changed, an AttributeValueChange notification is emitted.

5.2 UTRAN NRM Managed Object Class (~~MOC~~IOC) mapping

5.2.1 ~~MOC~~ IOC RncFunction

Table 18: Mapping from NRM ~~MOC~~ IOC RncFunction attributes to SS equivalent MOC RncFunction attributes

~~NRM Attributes of MOC RncFunction in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~RncFunctionId~~	~~rncFunctionId~~	~~string~~	~~Read Only, M~~
~~UserLabel~~	~~userLabel~~	~~string~~	~~Read Write, M~~
~~Mcc~~	~~mcc~~	~~long~~	~~Read Write, M~~
~~Mnc~~	~~mnc~~	~~long~~	~~Read Write, M~~
~~RncId~~	~~rncId~~	~~long~~	~~Read Write, M~~

NRM Attributes of IOC RncFunction in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
rncFunctionId	rncFunctionId	string	M	M	-
userLabel	userLabel	string	M	M	M
mcc	mcc	long	M	M	M
mnc	mnc	long	M	M	M
rncId	rncId	long	M	M	M

5.2.2 ~~MOC~~ IOC UtranCell

Table 19: Mapping from NRM ~~MOC~~IOC UtranCell attributes and associations to SS equivalent MOC UtranCell attributes

~~NRM Associations/Attributes of MOC UtranCell in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~utranCellId~~	~~utranCellId~~	~~string~~	~~Read Only, M~~
~~userLabel~~	~~userLabel~~	~~string~~	~~Read Write, M~~
~~cId~~	~~cId~~	~~long~~	~~Read Write, M~~
~~localCellId~~	~~localCellId~~	~~long~~	~~Read Write, M~~
~~uarfcnUl~~	~~uarfcnUl~~	~~long~~	~~Read Write, M~~
~~uarfcnDl~~	~~uarfcnDl~~	~~long~~	~~Read Write, M~~
~~primaryScramblingCode~~	~~primaryScramblingCode~~	~~long~~	~~Read Write, M~~
~~primaryCpichPower~~	~~primaryCpichPower~~	~~long~~	~~Read Write, M~~
~~maximumTransmissionPower~~	~~maximumTransmissionPower~~	~~long~~	~~Read Write, M~~
~~primarySchPower~~	~~primarySchPower~~	~~long~~	~~Read Write, M~~
~~secondarySchPower~~	~~secondarySchPower~~	~~long~~	~~Read Write, M~~
~~bchPower~~	~~bchPower~~	~~long~~	~~Read Write, M~~
~~lac~~	~~lac~~	~~long~~	~~Read Write, M~~
~~rac~~	~~rac~~	~~long~~	~~Read Write, M~~
~~sac~~	~~sac~~	~~long~~	~~Read Write, M~~
~~ura~~	~~ura~~	~~long~~	~~Read Write, M~~
~~AssociatedWith/ utranCell-IubLink~~	~~utranCellIubLink~~	~~GenericNRIRPSystem::AttributeTypes::MOReference~~	~~Read Only, M~~

NRM Associations/Attributes of IOC UtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
utranCellId	utranCellId	string	M	M	_
userLabel	userLabel	string	M	M	M
cId	cId	long	M	M	M
localCellId	localCellId	long	M	M	M
uarfcnUl	uarfcnUl	long	M	M	M
uarfcnDl	uarfcnDl	long	M	M	M
primaryScramblingCode	primaryScramblingCode	long	M	M	M
primaryCpichPower	primaryCpichPower	long	M	M	M
maximumTransmissionPower	maximumTransmissionPower	long	M	M	M
primarySchPower	primarySchPower	long	M	M	M
secondarySchPower	secondarySchPower	long	M	M	M
bchPower	bchPower	long	M	M	M
lac	lac	long	M	M	M
rac	rac	long	M	M	M
sac	sac	long	M	M	M
ura	ura	long	M	M	M
AssociatedWith/ utranCell-IubLink	utranCellIubLink	GenericNRIRPSystem::AttributeTypes::MOReference	M	M	-

5.2.3 ~~MOC~~ IOC NodeBFunction

Table 20: Mapping from NRM ~~MOC~~ IOC NodeBFunction attributes and associations to SS equivalent MOC NodeBFunction attributes

~~NRM Associations/Attributes of MOC NodeBFunction in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~nodeBFunctionId~~	~~nodeBFunctionId~~	~~string~~	~~Read-Only, M~~
~~userLabel~~	~~userLabel~~	~~string~~	~~Read-Write, M~~
~~ConnectedTo/ nodeBFunction-IubLink~~	~~NodeBFunctionIubLink~~	~~GenericNRIRPSystem::AttributeTypes::MOReference~~	~~Read-Only, M~~

NRM Attributes of IOC NodeBFunction in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
nodeBFunctionId	nodeBFunctionId	string	M	M	-
userLabel	userLabel	string	M	M	M
ConnectedTo/ nodeBFunction-IubLink	nodeBFunctionIubLink	GenericNRIRPSystem::AttributeTypes::MOReference	M	M	-

5.2.4 ~~MOC~~ IOC IubLink

Table 21: Mapping from NRM ~~MOC~~ IOC IubLink attributes and associations to SS equivalent MOC IubLink attributes

~~NRM Associations/Attributes of MOC IubLink in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~iubLinkId~~	~~iubLinkId~~	~~string~~	~~Read-Only, M~~
~~userLabel~~	~~userLabel~~	~~string~~	~~Read-Write, M~~
~~AssociatedWith/ iubLink-UtranCell~~	~~iubLinkUtranCell~~	~~GenericNRIRPSystem::AttributeTypes::MOReferenceSet~~	~~Read-Write, M~~
~~ConnectedTo/ iubLink-NodeBFunction~~	~~iubLinkNodeBFunction~~	~~GenericNRIRPSystem::AttributeTypes::MOReference~~	~~Read-Only, M~~

NRM Attributes of IOC IubLink in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
iubLinkId	iubLinkId	string	M	M	-
userLabel	userLabel	string	M	M	M
AssociatedWith/ iubLink-UtranCell	iubLinkUtranCell	GenericNRIRPSystem::AttributeTypes::MOReferenceSet	M	M	M
ConnectedTo/ iubLink-NodeBFunction	iubLinkNodeBFunction	GenericNRIRPSystem::AttributeTypes::MOReference	M	M	-

5.2.5 ~~MOC~~ IOC UtranRelation

Table 22: Mapping from NRM ~~MOC~~ IOC UtranRelation attributes and associations to SS equivalent MOC UtranRelation attributes

~~NRM Associations/Attributes of MOC UtranRelation in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~utranRelationId~~	~~utranRelationId~~	~~string~~	~~Read Only, M~~
~~relationType~~	~~relationType~~	~~string~~	~~Read Write, M~~
~~adjacentCell~~	~~adjacentCell~~	~~string~~	~~Read Write, M~~
~~uarfcnUl~~	~~uarfcnUl~~	~~long~~	~~Read Only, O~~
~~uarfcnDl~~	~~uarfcnDl~~	~~long~~	~~Read Only, O~~
~~primaryScramblingCode~~	~~primaryScramblingCode~~	~~long~~	~~Read Only, O~~
~~primaryCpichPower~~	~~primaryCpichPower~~	~~long~~	~~Read Only, O~~
~~lac~~	~~lac~~	~~long~~	~~Read Only, O~~

NRM Attributes of IOC UtranRelation in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
utranRelationId	utranRelationId	string	M	M	-
relationType	relationType	string	M	M	M
adjacentCell	adjacentCell	string	M	M	M
uarfcnUl	uarfcnUl	long	O	M	-
uarfcnDl	uarfcnDl	long	O	M	-
primaryScramblingCode	primaryScramblingCode	long	O	M	-
primaryCpichPower	primaryCpichPower	long	O	M	-
lac	lac	long	O	M	-

5.2.6 ~~MOC~~ IOC ExternalUtranCell

Table 23: Mapping from NRM ~~MOC~~ IOC ExternalUtranCell attributes and associations to SS equivalent MOC ExternalUtranCell attributes

~~NRM Associations/Attributes of MOC ExteralUtranCell in 3GPP TS 32.642 [4]~~	~~SS Attributes~~	~~SS Type~~	~~Qualifier~~
~~externalUtranCellId~~	~~externalUtranCellId~~	~~string~~	~~Read Only, M~~
~~userLabel~~	~~userLabel~~	~~string~~	~~Read Write, M~~
~~cId~~	~~cId~~	~~long~~	~~Read Write, M~~
~~mcc~~	~~mcc~~	~~long~~	~~Read Write, M~~
~~mnc~~	~~mnc~~	~~long~~	~~Read Write, M~~
~~rncId~~	~~rncId~~	~~long~~	~~Read Write, M~~
~~uarfcnUl~~	~~uarfcnUl~~	~~long~~	~~Read Write, M~~
~~uarfcnDl~~	~~uarfcnDl~~	~~long~~	~~Read Write, M~~
~~primaryScramblingCode~~	~~primaryScramblingCode~~	~~long~~	~~Read Write, M~~
~~primaryCpichPower~~	~~primaryCpichPower~~	~~long~~	~~Read Write, M~~
~~lac~~	~~lac~~	~~long~~	~~Read Write, M~~
~~rac~~	~~rac~~	~~long~~	~~Read Write, M~~

NRM Attributes of IOC ExternalUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
externalUtranCellId	externalUtranCellId	string	M	M	-
userLabel	userLabel	string	M	M	M
cId	cId	long	M	M	M
mcc	mcc	long	M	M	M
mnc	mnc	long	M	M	M
RncId	rncId	long	M	M	M
UarfcnUl	uarfcnUl	long	M	M	M
UarfcnDl	uarfcnDl	long	M	M	M
primaryScramblingCode	primaryScramblingCode	long	M	M	M
primaryCpichPower	primaryCpichPower	long	M	M	M
Lac	lac	long	M	M	M
Rac	rac	long	M	M	M

6 Rules for management information model extensions

This clause discusses how the models and IDL definitions provided the present document can be extended for a particular implementation and still remain compliant with 3GPP SA5's specifications.

6.1 Allowed extensions

Vendor-specific ~~MOCs~~ IOCs may be supported. The vendor-specific ~~MOCs~~ IOCs may support new types of attributes. The 3GPP SA5-specified notifications may be issued referring to the vendor-specific ~~MOCs~~ IOCs and vendor-specific attributes. New ~~MOCs~~ IOCs shall be distinguishable from 3GPP SA5 ~~MOCs~~ IOCs by name. 3GPP SA5-specified and vendor-specific attributes may be used in vendor-specific ~~MOCs~~IOCs. Vendor-specific attribute names shall be distinguishable from existing attribute names.

NRM ~~MOCs~~ IOCs may be subclassed. Subclassed ~~MOCs~~ IOCs shall maintain the specified behaviour of the 3GPP SA5's superior classes. They may add vendor-specific behaviour with vendor-specific attributes. When subclassing, naming attributes cannot be changed. The subclassed ~~MOC~~ IOC shall support all attributes of its superior class. Vendor-specific attributes cannot be added to 3GPP SA5 NRM ~~MOCs~~ IOCs without subclassing.

When subclassing, the 3GPP SA5-specified containment rules and their specified cardinality shall still be followed. As an example, `ManagementNode` (or its subclasses) shall be contained under `SubNetwork` (or its subclasses). Also, in Rel-4, there may only be 0 or 1 `ManagementNode` (or its subclasses) contained under `SubNetwork` (or its subclasses).

Managed Object Instances may be instantiated as CORBA objects. This requires that the ~~MOCs~~ IOCs be represented in IDL. 3GPP SA5's NRM ~~MOCs~~ IOCs are not currently specified in IDL, but may be specified in IDL for instantiation or subclassing purposes. However, management information models should not require that IRPManagers access the instantiated managed objects other than through supported methods in the present document (3GPP TS 32.622-3).

Extension rules related to notifications (Notification categories, Event Types, Extended Event Types etc.) are for further study.

6.2 Extensions not allowed

The IDL specifications in the present document cannot be edited or altered. Any additional IDL specifications shall be specified in separate IDL files.

IDL interfaces (note: not ~~MOCs~~IOCs) specified in the present document may not be subclassed or extended. New interfaces may be defined with vendor-specific methods.

Annex A (normative):
CORBA IDL, NRM Definitions

```
#ifndef UtranNetworkResourcesNRMDefs_idl
#define UtranNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

/**
 * This module defines constants for each MO class name and
 * the attribute names for each defined MO class.
 */
module UtranNetworkResourcesNRMDefs
{




      /**
       *  Definitions for MO class RncFunction
       */
      interface RncFunction
      {
         const string CLASS = "RncFunction";

         // Attribute Names
         //
         const string rncFunctionId = "rncFunctionId";
         const string userLabel = "userLabel";
         const string mcc= "mcc";
         const string mnc= "mnc";
         const string rncId= "rncId";
      };


      /**
       *  Definitions for MO class UtranCell
       */
      interface UtranCell
      {
         const string CLASS = "UtranCell";

         // Attribute Names
         //
         const string utranCellId = "utranCellId";
         const string userLabel = "userLabel";
         const string utranCellIubLink = "utranCellIubLink";
         const string cId= "cId";
         const string localCellId= "localCellId";
         const string uarfcnUl= "uarfcnUl";
         const string uarfcnDl= "uarfcnDl";
         const string primaryScramblingCode= "primaryScramblingCode";
         const string primaryCpichPower= "primaryCpichPower";
         const string maximumTransmissionPower= "maximumTransmissionPower";
         const string primarySchPower= "primarySchPower";
         const string secondarySchPower= "secondarySchPower";
         const string bchPower= "bchPower";
         const string lac= "lac";
         const string rac= "rac";
         const string sac= "sac";
         const string ura= "ura";

      };
```

```
      /**
       *  Definitions for MO class NodeBFunction
       */
      interface NodeBFunction
      {
         const string CLASS = "NodeBFunction";

         // Attribute Names
         //
         const string nodeBFunctionId = "nodeBFunctionId";
         const string userLabel = "userLabel";
         const string nodeBFunctionIubLink = "nodeBFunctionIubLink";
      };


      /**
       *  Definitions for MO class IubLink
       */
      interface IubLink
      {
         const string CLASS = "IubLink";

         // Attribute Names
         //
         const string iubLinkId = "iubLinkId";
         const string userLabel = "userLabel";
         const string iubLinkNodeBFunction = "iubLinkNodeBFunction";
         const string iubLinkUtranCell = "iubLinkUtranCell";

      };

};


      /**
       *  Definitions for MO class UtranRelation
       */
      interface UtranRelation
      {
         const string CLASS = "UtranRelation";

         // Attribute Names
         //
         const string utranRelationId = "utranRelationId";
         const string relationType = "relationType";
         const string adjacentCell = "adjacentCell";
         const string uarfcnUl= "uarfcnUl";
         const string uarfcnDl= "uarfcnDl";
         const string primaryScramblingCode= "primaryScramblingCode";
         const string primaryCpichPower= "primaryCpichPower";
         const string lac= "lac";
};


/**
       *  Definitions for MO class ExternalUtranCell
       */
      interface ExternalUtranCell
      {
         const string CLASS = "ExternalUtranCell";

         // Attribute Names
         //
```

```
        const string externalUtranCellId = "externalUtranCellId";
        const string userLabel = "userLabel";
        const string cId= "cId";
        const string mcc= "mcc";
        const string mnc= "mnc";
        const string rncId= "rncId";
        const string uarfcnUl= "uarfcnUl";
        const string uarfcnDl= "uarfcnDl";
        const string primaryScramblingCode= "primaryScramblingCode";
        const string primaryCpichPower= "primaryCpichPower";
        const string lac= "lac";
        const string rac= "rac";

    };


#endif
```

Annex B (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
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0