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Technical Specification

3rd Generation Partnership Project;

Technical Specification Group Services and System Aspects;

Telecommunication management;

Universal Terrestrial Radio Access Network (UTRAN)

Network Resource Model (NRM)

Integration Reference Point (IRP);

Solution Set (SS) definitions

(Release 17)



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# Foreword

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

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

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y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

# Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

28.651: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP); Requirements".

28.652: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

**28.653: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definition".**

# 1 Scope

The present document specifies the Solution Sets for the UTRAN NRM IRP.

This Solution Set specification is related to 3GPP TS 28.652[4].

# 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 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[4] 3GPP TS 28.652: "Telecommunication management; Universal Terrestrial Radio Access Network (UTRAN) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[5] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[6] Void.

[7] 3GPP TS 32.616: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Solution Set (SS) definitions".

[8] W3C REC-xml11-20060816: "Extensible Markup Language (XML) 1.1 (Second Edition)".

[9] Void

[10] W3C XML Schema Definition Language (XSD) 1.1 Part 1: Structures.

[11] W3C XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes.

[12] W3C REC-xml-names-20060816: "Namespaces in XML 1.1 (Second Edition)".

[13] 3GPP TS 28.623: “Generic Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definition”.

# 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 28.652 [4].

**XML file:** See definition in TS 32.616 [7].

**XML document:** See definition in TS 32.616 [7].

**XML declaration:** See definition in TS 32.616 [7].

**XML element:** See definition in TS 32.616 [7].

**empty XML element:** See definition in TS 32.616 [7].

**XML content (of an XML element):** See definition in TS 32.616 [7].

**XML start-tag:** See definition in TS 32.616 [7].

**XML end-tag:** See definition in TS 32.616 [7].

**XML empty-element tag:** See definition in TS 32.616 [7].

**XML attribute specification:** See definition in TS 32.616 [7].

**DTD:** See definition in TS 32.616 [7].

**XML schema:** See definition in TS 32.616 [7].

**XML namespace:** See definition in TS 32.616 [7].

**XML complex type:** See definition in TS 32.616 [7].

**XML element type:** See definition in TS 32.616 [7].

## 3.2 Abbreviations

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

CM Configuration Management

CORBA Common Object Request Broker Architecture

DN Distinguished Name

DTD Document Type Definition

EDGE Enhanced Data for GSM Evolution

GERAN GSM/EDGE Radio Access Network

GSM Global System for Mobile communication

IS Information Service

IDL Interface Definition Language (OMG)

IOC Information Object Class

IRP Integration Reference Point

IS Information Service

MO Managed Object

MOC Managed Object Class

NRM Network Resource Model

OMG Object Management Group

SIPTO Selected IP Traffic Offload

SS Solution Set

UMTS Universal Mobile Telecommunications System

UTRAN Universal Terrestrial Radio Access Network

XML eXtensible Markup Language

# 4 Solution Set Definitions

This specification defines the following 3GPP UTRAN NRM IRP Solution Set Definitions:

- 3GPP UTRAN NRM IRP CORBA SS (Annex A)

- 3GPP UTRAN NRM IRP XML Definitions (Annex B)

Annex A (normative):  
CORBA Solution Set

# A.0 Introduction

This annex contains the CORBA Solution Set for the IRP whose semantics is specified in UTRAN NRM IRP: Information Service (TS 28.652 [4]).

# A.1 Architectural features

## A.1.0 General

The overall architectural feature of UTRAN Network Resources IRP is specified in 3GPP TS 28.652 [4].   
This clause specifies features that are specific to the CORBA SS.

## A.1.1 Syntax for Distinguished Names

The syntax of a Distinguished Name is defined in 3GPP TS 32.300 [5].

## A.1.2 Rules for NRM extensions

See clause A.1.2 of [13].

# A.2 Mapping

## A.2.1 General mapping

See clause A.1.2.1 of [13].

## A.2.2 Information Object Class (IOC) mapping

### A.2.2.1 IOC RncFunction

Mapping from NRM IOC RncFunction attributes to SS equivalent MOC RncFunction attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| mcc | mcc | long |
| mnc | mnc | long |
| rncId | rncId | long |
| siptoSupported | siptoSupported | short |
| tceIDMappingInfoList | tceIDMappingInfoList | GenericNRMAttributeTypes::  TceIDMappingInfoListType |
| sharNetTceMappingInfoList | sharNetTceMappingInfoList | genericEUTRANNRMAttributeTypes::  SharNetTceMappingInfo |

### A.2.2.2 IOC UtranGenericCell

Mapping from NRM IOC UtranGenericCell attributes and associations to SS equivalent MOC UtranGenericCell attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| cId | cId | long |
| localCellId | localCellId | long |
| relatedAntennaList | relatedAntennaList | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| maximumTransmissionPower | maximumTransmissionPower | short |
| lac | lac | long |
| pichPower | pichPower | float |
| pchPower | pchPower | float |
| fachPower | fachPower | float |
| rac | rac | long |
| sac | sac | long |
| uraList | uraList | GenericNetworkResourcesIRPSystem::  AttributeTypes::LongSet |
| associatedWith/ utranCell-IubLink | utranCellIubLink | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReference |
| cellMode | cellMode | GenericNRMAttributeTypes::  CellModeEnumType |
| operationalState | operationalState | StateManagementIRPOptConstDefs::  OperationalStateTypeOpt |
| hsFlag | hsFlag | short |
| hsEnable | hsEnable | short |
| numOfHspdschs | numOfHspdschs | short |
| numOfHsscchs | numOfHsscchs | short |
| frameOffset | frameOffset | short |
| cellIndividualOffset | cellIndividualOffset | float |
| hcsPrio | hcsPrio | short |
| maximumAllowedUlTxPower | maximumAllowedUlTxPower | short |
| snaInformation | snaInformation | GenericNRMAttributeTypes::  snaInformationType |
| qrxlevMin | qrxlevMin | short |
| deltaQrxlevmin | deltaQrxlevmin | short |
| qhcs | qhcs | short |
| penaltyTime | penaltyTime | short |
| referenceTimeDifferenceToCell | referenceTimeDifferenceToCell | short |
| readSFNIndicator | readSFNIndicator | Boolean |
| restrictionStateIndicator | restrictionStateIndicator | GenericNRMAttributeTypes::  restrictionStateEnumType |
| dpcModeChangeSupportIndicator | dpcModeChangeSupportIndicator | GenericNRMAttributeTypes::  dpcModeChangeSupportEnumType |
| relatedTmaList | relatedTmaList | GenericNetworkResourceIRPSystem::AttributeTypes::  MOReferenceSet |
| relatedSectorEquipment | relatedSectorEquipment | GenericNetworkResourceIRPSystem::AttributeTypes::  MOReference |
| nsPlmnIdList | nsPlmnIdList | GenericNRMAttributeTypes::NsPlmnIdListType |
| NOTE 1: For all support qualifiers with the value “O”, see attribute constraints in TS28.652 [4].  NOTE 2: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4].  NOTE 3: For all support qualifiers with the value “CM” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.3 IOC NodeBFunction

Mapping from NRM IOC NodeBFunction attributes and associations to SS equivalent MOC NodeBFunction attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| connectedTo/  nodeBFunction-IubLink | nodeBFunctionIubLink | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReference |

### A.2.2.4 IOC IubLink

Mapping from NRM IOC IubLink attributes and associations to SS equivalent MOC IubLink attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| AssociatedWith/  iubLink-UtranCell | iubLinkUtranCell | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| ConnectedTo/  iubLink-NodeBFunction | iubLinkNodeBFunction | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReference |
| AssociatedWith1/  iubLink-ATMChannelTerminationPoint | iubLinkATMChannelTerminationPoint | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReference |

### A.2.2.5 IOC ExternalUtranGenericCell

Mapping from NRM IOC ExternalUtranGenericCell attributes and associations to SS equivalent MOC ExternalUtranGenericCell attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| cId | cId | long |
| mcc | mcc | short |
| mnc | mnc | short |
| rncId | rncId | long |
| cellMode | cellMode | GenericNRMAttributeTypes::  CellModeEnumType |
| lac | lac | long |
| rac | rac | long |
| controllingRnc | controllingRnc | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReference |
| hsFlag | hsFlag | short |
| frameOffset | frameOffset | short |
| cellIndividualOffset | cellIndividualOffset | long |
| hcsPrio | hcsPrio | short |
| maximumAllowedUlTxPower | maximumAllowedUlTxPower | short |
| qrxlevMin | qrxlevMin | short |
| deltaQrxlevmin | deltaQrxlevmin | short |
| Qhcs | qhcs | short |
| penaltyTime | penaltyTime | short |
| referenceTimeDifferenceToCell | referenceTimeDifferenceToCell | short |
| readSFNIndicator | readSFNIndicator | Boolean |
| restrictionStateIndicator | restrictionStateIndicator | GenericNRMAttributeTypes::  restrictionStateEnumType |
| dpcModeChangeSupportIndicator | dpcModeChangeSupportIndicator | GenericNRMAttributeTypes::  dpcModeChangeSupportEnumType |
| snaInformation | snaInformation | GenericNRMAttributeTypes::  snaInformationType |
| NOTE 1: For all support qualifiers with the value “O”, see attribute constraints in TS 28.652 [4].  NOTE 2: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4].  NOTE 3: For all support qualifiers with the value “CM” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.6 Void

### A.2.2.7 IOC ExternalRncFunction

Mapping from NRM IOC ExternalRncFunction attributes and associations to SS equivalent MOC ExternalRncFunction attributes

| IS Attributes | SS Attributes | SS Type |
| --- | --- | --- |
| mcc | mcc | long |
| mnc | mnc | long |
| rncId | rncId | long |
| controlledCellList | controlledCellList | GenericNetworkResourcesIRPSystem::  AttributeTypes::MOReferenceSet |
| NOTE: For all support qualifiers with the value “O”, see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.8 UtranCellFDD

Mapping from NRM IOC UtranCellFDD attributes and associations to SS equivalent MOC UtranCellFDD attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| uarfcnUl | uarfcnUl | short |
| uarfcnDl | uarfcnDl | short |
| primaryScramblingCode | primaryScramblingCode | short |
| primaryCpichPower | primaryCpichPower | float |
| primarySchPower | primarySchPower | float |
| secondarySchPower | secondarySchPower | float |
| bchPower | bchPower | float |
| aichPower | aichPower | float |
| qqualMin | qqualMin | float |
| cellCapabilityContainerFDD | cellCapabilityContainerFDD | FDDNetworkResourceMAttributeTypes::  CellCapabilityContainerFDDType |
| txDiversityIndicator | txDiversityIndicator | FDDNetworkResourceMAttributeTypes::  txDiversityIndicatorEnumType |
| temporaryOffset1 | temporaryOffset1 | short |
| temporaryOffset2 | temporaryOffset2 | short |
| sttdSupportIndicator | sttdSupportIndicator | FDDNetworkResourceMAttributeTypes::  sttdSupportEnumType |
| closedLoopMode1SupportIndicator | closedLoopMode1SupportIndicator | FDDNetworkResourceMAttributeTypes::  closedLoopMode1EnumType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.9 UtranCellTDD

Mapping from NRM IOC UtranCellTDD attributes and associations to SS equivalent MOC UtranCellTDD attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| uarfcn | uarfcn | short |
| cellParameterId | cellParameterId | long |
| primaryCcpchPower | primaryCcpchPower | float |
| cellCapabilityContainerTDD | cellCapabilityContainerTDD | TDDNetworkResourceMAttributeTypes::  cellCapabilityContainerTDDType |
| sctdIndicator | sctdIndicator | TDDNetworkResourceMAttributeTypes:: sctdSupportEnumType |
| dpchConstantValue | dpchConstantValue | long |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.10 UtranCellTDDLcr

Mapping from NRM IOC UtranCellTDDLcr attributes and associations to SS equivalent MOC UtranCellTDDLcr attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| uarfcnLCRList | uarfcnLCRList | TDDNRMAttributeTypes:: UarfcnLCRListConfigStructType |
| dwPchPower | dwPchPower | float |
| fpachPower | fpachPower | float |
| tstdIndicator | tstdIndicator | TDDNRMAttributeTypes:: tstdIndicatorEnumType |
| timeSlotLCRList | timeSlotLCRList | TDDNRMAttributeTypes::  TimeSlotListConfigStructType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.11 UtranCellTDDHcr

Mapping from NRM IOC UtranCellTDDHcr attributes and associations to SS equivalent MOC UtranCellTDDHcr attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| schPower | schPower | float |
| temporaryOffset1 | temporaryOffset1 | short |
| syncCase | syncCase | short |
| timeSlotForSch | timeSlotForSch | short |
| schTimeSlot | schTimeSlot | short |
| timeSlotHCRList | timeSlotHCRList | TDDNRMAttributeTypes::  TimeSlotListConfigStructType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.12 ExternalUtranCellFDD

Mapping from NRM IOC ExternalUtranCellFDD attributes and associations to SS equivalent MOC ExternalUtranCellFDD attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| uarfcnUl | uarfcnUl | short |
| uarfcnDl | uarfcnDl | short |
| primaryScramblingCode | primaryScramblingCode | short |
| primaryCpichPower | primaryCpichPower | float |
| qqualMin | qqualMin | long |
| cellCapabilityContainerFDD | cellCapabilityContainerFDD | FDDNetworkResourceMAttributeTypes::  CellCapabilityContainerFDDType |
| txDiversityIndicator | txDiversityIndicator | FDDNetworkResourceMAttributeTypes::  txDiversityIndicatorEnumType |
| temporaryOffset1 | temporaryOffset1 | short |
| temporaryOffset2 | temporaryOffset2 | short |
| sttdSupportIndicator | sttdSupportIndicator | FDDNetworkResourceMAttributeTypes:: sttdSupportEnumType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.13 ExternalUtranCellTDD

Mapping from NRM IOC ExternalUtranCellTDD attributes and associations to SS equivalent MOC ExternalUtranCellTDD attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| uarfcn | uarfcn | short |
| cellParameterId | cellParameterId | long |
| primaryCcpchPower | primaryCcpchPower | float |
| cellCapabilityContainerTDD | cellCapabilityContainerTDD | TDDNetworkResourceMAttributeTypes::  CellCapabilityContainerFDDType |
| sctdIndicator | sctdIndicator | TDDNetworkResourceMAttributeTypes:: sctdSupportEnumType |
| dpchConstantValue | dpchConstantValue | long |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.14 ExternalUtranCellTDDHcr

Mapping from NRM IOC ExternalUtranCellTDDHcr attributes and associations to SS equivalent MOC ExternalUtranCellTDDHcr attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| temporaryOffset1 | temporaryOffset1 | short |
| syncCase | syncCase | short |
| timeSlotForSch | timeSlotForSch | short |
| schTimeSlot | schTimeSlot | short |
| timeSlotHCRList | timeSlotHCRList | TDDNRMAttributeTypes::  TimeSlotListConfigStructType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.15 ExternalUtranCellTDDLcr

Mapping from NRM IOC ExternalUtranCellTDDLcr attributes and associations to SS equivalent MOC ExternalUtranCellTDDLcr attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| tstdIndicator | tstdIndicator | TDDNRMAttributeTypes:: tstdIndicatorEnumType |
| timeSlotLCRList | timeSlotLCRList | TDDNRMAttributeTypes::  TimeSlotListConfigStructType |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.16 IOC UtranRelation

Mapping from NRM IOC UtranRelation attributes and associations to SS equivalent MOC UtranRelation attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
|  |  | string |
| adjacentCell | adjacentCell | string |

### A.2.2.17 IOC EP\_IuCS

Mapping from NRM IOC EP\_IuCS attributes and associations to SS equivalent MOC EP\_IuCS attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| connMscNumber | connMscNumber | unsigned short |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.18 IOC EP\_IuPS

Mapping from NRM IOC EP\_IuPS attributes and associations to SS equivalent MOC EP\_IuPS attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| connSgsnNumber | connSgsnNumber | unsigned short |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

### A.2.2.19 IOC EP\_Iur

Mapping from NRM IOC EP\_Iur attributes and associations to SS equivalent MOC EP\_Iur attributes

|  |  |  |
| --- | --- | --- |
| IS Attributes | SS Attributes | SS Type |
| connectedRncId | connectedRncId | unsigned short |
| NOTE: For all support qualifiers with the value “CO” see attribute constraints in TS 28.652 [4]. | | |

# A.3 Solution Set definitions

## A.3.1 IDL definition structure

Clause A.3.2 defines the MO classes for the UTRAN NRM IRP.

## A.3.2 IDL specification "UtranNetworkResourcesNRMDefs.idl"

//File:UtranNetworkResourcesNRMDefs.idl

#ifndef \_*UTRANNETWORKRESOURCESNRMDEFS\_*IDL\_

#define \_*UTRANNETWORKRESOURCESNRMDEFS\_*IDL\_

#include "GenericNetworkResourcesNRMDefs.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 : GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "RncFunction";

// Attribute Names

//

const string mcc= "mcc";

const string mnc= "mnc";

const string rncId= "rncId";

const string siptoSupported= "siptoSupported";

const string tceIDMappingInfoList= "tceIDMappingInfoList";

const string sharNetTceMappingInfoList= "sharNetTceMappingInfoList";

};

/\*\*

\* Definitions for MO class UtranGenericCell

\*/

interface UtranGenericCell : GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "UtranGenericCell";

// Attribute Names

//

const string utranCellIubLink = "utranCellIubLink";

const string cId= "cId";

const string localCellId= "localCellId";

const string maximumTransmissionPower= "maximumTransmissionPower";

const string relatedAntennaList= "relatedAntennaList";

const string primarySchPower= "primarySchPower";

const string secondarySchPower= "secondarySchPower";

const string bchPower= "bchPower";

const string fpachPower= "fpachPower";

const string pichPower= "pichPower";

const string pchPower= "pchPower";

const string fachPower= "fachPower";

const string cellMode = "cellMode";

const string lac= "lac";

const string rac= "rac";

const string sac= "sac";

const string uraList= "uraList";

const string operationalState = "operationalState";

const string relatedTmaList = "relatedTmaList";

const string hsFlag = "hsFlag";

const string hsEnable = "hsEnable";

const string numOfHspdschs = "numOfHspdschs";

const string numOfHsscchs = "numOfHsscchs";

const string snaInformation = "snaInformation";

const string frameOffset = "frameOffset";

const string cellIndividualOffset = "cellIndividualOffset";

const string hcsPrio = "hcsPrio";

const string maximumAllowedUlTxPower = "maximumAllowedUlTxPower";

const string qrxlevMin = "qrxlevMin";

const string deltaQrxlevmin = "deltaQrxlevmin";

const string qhcs = "qhcs";

const string penaltyTime = "penaltyTime";

const string referenceTimeDifferenceToCell = "referenceTimeDifferenceToCell";

const string readSFNIndicator = "readSFNIndicator";

const string restrictionStateIndicator = "restrictionStateIndicator";

const string dpcModeChangeSupportIndicator = "dpcModeChangeSupportIndicator";

const stringnsPlmnIdList = "nsPlmnIdList";

const string relatedSectorEquipment = "relatedSectorEquipment";

};

/\*\*

\* Definitions for MO class NodeBFunction

\*/

interface NodeBFunction : GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "NodeBFunction";

// Attribute Names

//

const string nodeBFunctionIubLink = "nodeBFunctionIubLink";

};

/\*\*

\* Definitions for MO class IubLink

\*/

interface IubLink : GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "IubLink";

// Attribute Names

//

const string iubLinkNodeBFunction = "iubLinkNodeBFunction";

const string iubLinkUtranCell = "iubLinkUtranCell";

const string iubLinkATMChannelTerminationPoint = "iubLinkATMChannelTerminationPoint";

};

/\*\*

\* Definitions for MO class UtranRelation

\*/

interface UtranRelation : GenericNetworkResourcesNRMDefs::Top

{

const string CLASS = "UtranRelation";

// Attribute Names

//

const string id = "id";

const string adjacentCell = "adjacentCell";

};

/\*\*

\* Definitions for MO class ExternalUtranGenericCell

\*/

interface ExternalUtranGenericCell : GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "ExternalUtranGenericCell";

// Attribute Names

//

const string cId= "cId";

const string mcc= "mcc";

const string mnc= "mnc";

const string rncId= "rncId";

const string cellMode = "cellMode";

const string uarfcn= "uarfcn";

const string cellParameterId= "cellParameterId";

const string lac= "lac";

const string rac= "rac";

const string controllingRnc = "controllingRnc";

const string hsFlag = "hsFlag";

const string frameOffset = "frameOffset";

const string cellIndividualOffset = "cellIndividualOffset";

const string hcsPrio = "hcsPrio";

const string maximumAllowedUlTxPower = "maximumAllowedUlTxPower";

const string qrxlevMin = "qrxlevMin";

const string deltaQrxlevmin = "deltaQrxlevmin";

const string qhcs = "qhcs";

const string penaltyTime = "penaltyTime";

const string referenceTimeDifferenceToCell = "referenceTimeDifferenceToCell";

const string readSFNIndicator = "readSFNIndicator";

const string restrictionStateIndicator = "restrictionStateIndicator";

const string dpcModeChangeSupportIndicator = "dpcModeChangeSupportIndicator";

};

/\*\*

\* Definitions for MO class ExternalRncFunction

\*/

interface ExternalRncFunction :

GenericNetworkResourcesNRMDefs::ManagedFunction

{

const string CLASS = "ExternalRncFunction";

// Attribute Names

//

const string mcc = "mcc";

const string mnc = "mnc";

const string rncId = "rncId";

const string controlledCellList = "controlledCellList";

};

/\*\*

\* Definitions for MO class UtranCellFDD

\*/

interface UtranCellFDD : UtranGenericCell

{

const string CLASS = "UtranCellFDD";

// Attribute Names

//

const string uarfcnUl = "uarfcnUl";

const string uarfcnDl = "uarfcnDl";

const string primaryScramblingCode = "primaryScramblingCode";

const string primaryCpichPower = "primaryCpichPower";

const string primarySchPower = "primarySchPower";

const string secondarySchPower = "secondarySchPower";

const string bchPower = "bchPower";

const string aichPower = "aichPower";

const string qqualMin = "qqualMin";

const string cellCapabilityContainerFDD = "cellCapabilityContainerFDD";

const string txDiversityIndicator = "txDiversityIndicator";

const string temporaryOffset1 = "temporaryOffset1";

const string temporaryOffset2 = "temporaryOffset2";

const string sttdSupportIndicator = "sttdSupportIndicator";

const string closedLoopMode1SupportIndicator = "closedLoopMode1SupportIndicator";

};

/\*\*

\* Definitions for MO class UtranCellTDD

\*/

interface UtranCellTDD : UtranGenericCell

{

const string CLASS = "UtranCellTDD";

// Attribute Names

//

const string uarfcn = "uarfcn";

const string cellParameterId = "cellParameterId";

const string primaryCcpchPower = "primaryCcpchPower";

const string cellCapabilityContainerTDD = "cellCapabilityContainerTDD";

const string sctdIndicator = "sctdIndicator";

const string dpchConstantValue = "dpchConstantValue";

};

/\*\*

\* Definitions for MO class UtranCellTDDLcr

\*/

interface UtranCellTDDLcr : UtranCellTDD

{

const string CLASS = "UtranCellTDDLcr";

// Attribute Names

//

const string uarfcnLCRList = "uarfcnLCRList";

const string fpachPower = "fpachPower";

const string dwPchPower = "dwPchPower";

const string tstdIndicator = "tstdIndicator";

const string timeSlotLCRList = "timeSlotLCRList";

};

/\*\*

\* Definitions for MO class UtranCellTDDHcr

\*/

interface UtranCellTDDHcr : UtranCellTDD

{

const string CLASS = "UtranCellTDDHcr";

// Attribute Names

//

const string schPower = "schPower";

const string temporaryOffset1 = "temporaryOffset1";

const string syncCase = "syncCase";

const string timeSlotForSch = "timeSlotForSch";

const string schTimeSlot = "schTimeSlot";

const string timeSlotHCRList = "timeSlotHCRList";

};

/\*\*

\* Definitions for MO class ExternalUtranCellFDD

\*/

interface ExternalUtranCellFDD : ExternalUtranGenericCell

{

const string CLASS = "ExternalUtranCellFDD";

// Attribute Names

//

const string uarfcnUl = "uarfcnUl";

const string uarfcnDl = "uarfcnDl";

const string primaryScramblingCode = "primaryScramblingCode";

const string primaryCpichPower = "primaryCpichPower";

const string qqualMin = "qqualMin";

const string cellCapabilityContainerFDD = "cellCapabilityContainerFDD";

const string txDiversityIndicator = "txDiversityIndicator";

const string temporaryOffset1 = "temporaryOffset1";

const string temporaryOffset2 = "temporaryOffset2";

const string sttdSupportIndicator = "sttdSupportIndicator";

const string closedLoopMode1SupportIndicator = "closedLoopMode1SupportIndicator";

};

/\*\*

\* Definitions for MO class ExternalUtranCellTDD

\*/

interface ExternalUtranCellTDD : ExternalUtranGenericCell

{

const string CLASS = "ExternalUtranCellTDD";

// Attribute Names

//

const string uarfcn = "uarfcn";

const string cellParameterId = "cellParameterId";

const string primaryCcpchPower = "primaryCcpchPower";

const string cellCapabilityContainerTDD = "cellCapabilityContainerTDD";

const string sctdIndicator = "sctdIndicator";

const string dpchConstantValue = "dpchConstantValue";

};

/\*\*

\* Definitions for MO class ExternalUtranCellTDDHcr

\*/

interface ExternalUtranCellTDDHcr : ExternalUtranCellTDD

{

const string CLASS = "ExternalUtranCellTDDHcr";

// Attribute Names

//

const string temporaryOffset1 = "temporaryOffset1";

const string syncCase = "syncCase";

const string timeSlotForSch = "timeSlotForSch";

const string schTimeSlot = "schTimeSlot";

const string timeSlotHCRList = "timeSlotHCRList";

};

/\*\*

\* Definitions for MO class ExternalUtranCellTDDLcr

\*/

interface ExternalUtranCellTDDLcr : ExternalUtranCellTDD

{

const string CLASS = "ExternalUtranCellTDDLcr";

// Attribute Names

//

const string tstdIndicator = "tstdIndicator";

const string timeSlotLCRList = "timeSlotLCRList";

};

/\*\*

\* Definitions for MO class EP\_IuCS

\*/

interface EP\_IuCS : GenericNetworkResourcesNRMDefs::EP\_RP

{

const string CLASS = "EP\_IuCS";

// Attribute Name

//

const string connMscNumber = "connMscNumber";

};

/\*\*

\* Definitions for MO class EP\_IuPS

\*/

interface EP\_IuPS : GenericNetworkResourcesNRMDefs::EP\_RP

{

const string CLASS = "EP\_IuPS";

// Attribute Name

//

const string connSgsnNumber= "connSgsnNumber";

};

/\*\*

\* Definitions for MO class EP\_Iur

\*/

interface EP\_Iur : GenericNetworkResourcesNRMDefs::EP\_RP

{

const string CLASS = "EP\_Iur";

// Attribute Name

//

const string connectedRncId= "connectedRncId";

};

};

/\*\*

\* This module adds datatype definitions for both FDD and TDD mode

\* attributes used in the NRM which are not the basic datatypes

\* already defined in CORBA.

\*/

module GenericNRMAttributeTypes

{

enum CellModeEnumType

{

FDDMode,

TDDMode\_1\_28Mcps,

TDDMode\_3\_84Mcps

};

enum RestrictionStateEnumType

{

cellReservedForOperatorUse,

cellAccessible

};

enum DpcModeChangeEnumType

{

dpcModeChange\_supported,

dpcModeChange\_not\_supported

};

typedef long SNAC;

struct snaInformationType

{

long mcc;

long mnc;

sequence<SNAC> snaList;

};

struct TceIDMappingInfo

{

short tceID;

string tceIPAddr;

};

typedef sequence<TceIDMappingInfo> TceIDMappingInfoListType;

structNs PlmnIdType

{

short mcc;

short mnc;

};

const short NS\_ PLMNID\_LIST\_LENGTH = 5;

typedef sequence<NsPlmnIdType>NsPlmnIdListType;

};

struct SharNetTceMappingInfo

{

long PLMNId;

short tceID;

string tceIPAddr;

};

typedef sequence<SharNetTceMappingInfo> SharNetTceMappingInfoListType;

};

/\*\*

\* This module adds datatype definitions for FDD mode attributes

\* used in the NRM which are not the basic datatypes already defined

\* in CORBA.

\*/

module FDDNRMAttributeTypes

{

enum SttdSupportEnumType

{

active,

inactive

};

enum txDiversityIndicatorEnumType

{

none,

primaryCpichBroadcastFrom2Antennas,  
 sttdAppliedToPrimaryCCPCH,

tstdAppliedToPrimarySchAndSecondarySch

};

enum ClosedLoopMode1EnumType

{

closedLoopMode1\_supported,

closedLoopMode1\_not\_supported

};

typedef octet CellCapabilityContainerFDDBit;

//CellCapabilityContainerFDDBits:

const unsigned long Flexible\_Hard\_Split\_Support\_Indicator = 0;

const unsigned long Delayed\_Activation\_Support\_Indicator = 1;

const unsigned long HS\_DSCH\_Support\_Indicator = 2;

const unsigned long DSCH\_Support\_Indicator = 3;

const unsigned long F\_DPCH\_Support\_Indicator = 4;

const unsigned long E\_DCH\_Support\_Indicator = 5;

const unsigned long E\_DCH\_TTI2ms\_Support\_Indicator = 6;

const unsigned long E\_DCH\_2sf2and2sf4\_and\_all\_inferior\_SFs\_Support\_Indicator = 7;

const unsigned long E\_DCH\_2sf2\_and\_all\_inferior\_SFs\_Support\_Indicator = 8;

const unsigned long E\_DCH\_2sf4\_and\_all\_inferior\_SFs\_Support\_Indicator = 9;

const unsigned long E\_DCH\_sf4\_and\_all\_inferior\_SFs\_Support\_Indicator = 10;

const unsigned long E\_DCH\_sf8\_and\_all\_inferior\_SFs\_Support\_Indicator = 11;

const unsigned long E\_DCH\_HARQ\_IR\_Combining\_Support\_Indicator = 12;

const unsigned long E\_DCH\_HARQ\_Chase\_Combining\_Support\_Indicator = 13;

typedef sequence <CellCapabilityContainerFDDBit> CellCapabilityContainerFDDType;

};

/\*\*

\* This module adds datatype definitions for TDD mode attributes

\* used in the NRM which are not the basic datatypes already defined

\* in CORBA.

\*/

module TDDNRMAttributeTypes

{

enum ActivityStatusType

{

active,

inactive

};

typedef ActivityStatusType TstdIndicatorEnumType; typedef ActivityStatusType SctdSupportEnumType;

typedef ActivityStatusType TimeSlotStatusType;

typedef octet CellCapabilityContainerTDDBit;

const unsigned long Delayed\_Activation\_Support\_Indicator = 0;

const unsigned long HS\_DSCH\_Support\_Indicator = 1;

const unsigned long DSCH\_Support\_Indicator = 2;

typedef sequence <CellCapabilityContainerTDDBit> CellCapabilityContainerTDDType;

enum TimeSlotDirectionType

{

UL,

DL

};

struct TimeSlotConfigStructType

{

short timeSlotId;

TimeSlotDirectionType timeSlotDirection;

TimeSlotStatusType timeSlotStatus;

};

typedef sequence<TimeSlotConfigStructType> TimeSlotListConfigStructType;

struct UarfcnLCRConfigStructType

{

short uarfcn;

TimeSlotListConfigStructType timeSlotLCRList;

};

typedef sequence<UarfcnLCRConfigStructType> UarfcnLCRListConfigStructType;

};

#endif //\_*UTRANNETWORKRESOURCESNRMDEFS\_*IDL\_

Annex B (normative):  
XML Definitions

# B.0 Introduction

This annex contains the XML Definitions for the UTRAN NRM IRP as it applies to Itf-N, in accordance with UTRAN NRM IRP IS definitions [4].

The XML file formats are based on XML [8], XML Schema [10] [11] and XML Namespace [12] standards.

# B.1 Architectural features

## B.1.0 General

The overall architectural feature of UTRAN Network Resources IRP is specified in 3GPP TS 28.652 [4].

This clause specifies features that are specific to the Schema definitions.

## B.1.1 Syntax for Distinguished Names

The syntax of a Distinguished Name is defined in 3GPP TS 32.300 [5].

# B.2 Mapping

### B.2.1 General mapping

An IOC maps to an XML element of the same name as the IOC's name in the IS. An IOC attribute maps to a sub-element of the corresponding IOC's XML element, and the name of this sub-element is the same as the attribute's name in the IS.

### B.2.2 Information Object Class (IOC) mapping

The mapping is not present in the current version of this specification.

# B.3 Solution Set definitions

## B.3.1 XML definition structure

The overall description of the file format of configuration data XML files is provided by 3GPP TS 32.616 [7].

Annex B.3.3 of the present document defines the NRM-specific XML schema utranNrm.xsd for the UTRAN Network Resources IRP NRM defined in 3GPP TS 28.652 [4].

XML schema utranNrm.xsd explicitly declares NRM-specific XML element types for the related NRM.

The definition of those NRM-specific XML element types complies with the generic mapping rules defined in 3GPP TS 32.616 [7].

## B.3.2 Graphical Representation

The graphical representation is not present in the current version of this specification.

## B.3.3 XML schema "utranNrm.xsd"

<?xml version="1.1" encoding="UTF-8"?>  
  
<!--  
 3GPP TS 28.653 UTRAN NRM IRP  
 Bulk CM Configuration data file NRM-specific XML schema  
 utranNrm.xsd  
-->

<schema

xmlns="http://www.w3.org/2001/XMLSchema"

xmlns:xn="http://www.3gpp.org/ftp/specs/archive/28\_series/28.623#genericNrm"

xmlns:un="http://www.3gpp.org/ftp/specs/archive/28\_series/28.653#utranNrm"

xmlns:gn="http://www.3gpp.org/ftp/specs/archive/28\_series/28.656#geranNrm"

xmlns:sm="http://www.3gpp.org/ftp/specs/archive/28\_series/28.626#stateManagementIRP"

targetNamespace="http://www.3gpp.org/ftp/specs/archive/28\_series/28.653#utranNrm"

elementFormDefault="qualified">  
 <import  
 namespace=  
"http://www.3gpp.org/ftp/specs/archive/28\_series/28.623#genericNrm"  
 />  
 <import  
 namespace=  
"http://www.3gpp.org/ftp/specs/archive/28\_series/28.656#geranNrm"  
 />  
 <import  
 namespace=  
"http://www.3gpp.org/ftp/specs/archive/28\_series/28.626#stateManagementIRP"  
 />  
  
 <!-- UTRAN Network Resources IRP NRM attribute related XML types -->  
  
 <simpleType name="localCellId">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="268435455"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="cId">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="65535"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="uarfcnAnyMode">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="16383"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="primaryScramblingCode">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="511"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="primaryCpichPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-10"/>  
 <maxInclusive value="+50"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="maximumTransmissionPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="0"/>  
 <maxInclusive value="50"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="primarySchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-35"/>  
 <maxInclusive value="+15"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="secondarySchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-35"/>  
 <maxInclusive value="+15"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="bchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-35"/>  
 <maxInclusive value="+15"/>  
 </restriction>  
 </simpleType>

<simpleType name="aichPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-22"/>  
 <maxInclusive value="+5"/>  
 </restriction>  
 </simpleType>

<simpleType name="fpachPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-150"/>  
 <maxInclusive value="+400"/>  
 </restriction>  
 </simpleType>

<simpleType name="pichPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-10"/>  
 <maxInclusive value="+5"/>  
 </restriction>  
 </simpleType>

<simpleType name="pchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-350"/>  
 <maxInclusive value="+150"/>  
 </restriction>  
 </simpleType>

<simpleType name="fachPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-350"/>  
 <maxInclusive value="+150"/>  
 </restriction>  
 </simpleType>

<simpleType name="lac">  
 <union>  
 <simpleType>  
 <restriction base="integer">  
 <minInclusive value="1"/>  
 <maxInclusive value="65533"/>  
 </restriction>  
 </simpleType>  
 <simpleType>  
 <restriction base="integer">  
 <minInclusive value="65535"/>  
 <maxInclusive value="65535"/>  
 </restriction>  
 </simpleType>  
 </union>  
 </simpleType>  
  
 <simpleType name="rac">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="255"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="sac">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="65535"/>  
 </restriction>  
 </simpleType>  
  
 <complexType name="uraList">  
 <sequence>  
 <element name="ura" maxOccurs="8">  
 <simpleType>  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="65535"/>  
 </restriction>  
 </simpleType>  
 </element>  
 </sequence>  
 </complexType>  
  
 <simpleType name="cellMode">  
 <restriction base="string">  
 <enumeration value="FDDMode"/>  
 <enumeration value="3-84McpsTDDMode"/>  
 <enumeration value="1-28McpsTDDMode"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="cellParameterId">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="127"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="primaryCcpchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-15"/>  
 <maxInclusive value="+40"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="dwPchPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-15"/>  
 <maxInclusive value="+40"/>  
 </restriction>  
 </simpleType>  
  
 <simpleType name="schPower">  
 <restriction base="decimal">  
 <fractionDigits value="1"/>  
 <minInclusive value="-35"/>  
 <maxInclusive value="+15"/>  
 </restriction>  
 </simpleType>  
  
 <complexType name="timeSlotLCRList">  
 <sequence>  
 <element name="timeSlot" maxOccurs="7">  
 <complexType>  
 <all>  
 <element name="timeSlotId" minOccurs="1">  
 <simpleType>  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="6"/>  
 </restriction>  
 </simpleType>  
 </element>  
 <element name="timeSlotDirection" minOccurs="1">  
 <simpleType>  
 <restriction base="string">  
 <enumeration value="UL"/>  
 <enumeration value="DL"/>  
 </restriction>  
 </simpleType>  
 </element>  
 <element name="timeSlotStatus" minOccurs="1">  
 <simpleType>  
 <restriction base="string">  
 <enumeration value="Active"/>  
 <enumeration value="Not-Active"/>  
 </restriction>  
 </simpleType>  
 </element>  
 </all>  
 </complexType>  
 </element>  
 </sequence>  
 </complexType>  
  
 <complexType name="timeSlotHCRList">  
 <sequence>  
 <element name="timeSlot" maxOccurs="15">  
 <complexType>  
 <all>  
 <element name="timeSlotId" minOccurs="1">  
 <simpleType>  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="14"/>  
 </restriction>  
 </simpleType>  
 </element>  
 <element name="timeSlotDirection" minOccurs="1">  
 <simpleType>  
 <restriction base="string">  
 <enumeration value="UL"/>  
 <enumeration value="DL"/>  
 </restriction>  
 </simpleType>  
 </element>  
 <element name="timeSlotStatus" minOccurs="1">  
 <simpleType>  
 <restriction base="string">  
 <enumeration value="Active"/>  
 <enumeration value="Not-Active"/>  
 </restriction>  
 </simpleType>  
 </element>  
 </all>  
 </complexType>  
 </element>  
 </sequence>  
 </complexType>

<simpleType name="restrictionStateIndicator">  
 <restriction base="string">  
 <enumeration value="cellReservedForOperatorUse"/>  
 <enumeration value="cellAccessible"/>  
 </restriction>  
 </simpleType>

<simpleType name="dpcModeChangeSupport">  
 <restriction base="string">  
 <enumeration value="dpcModeChangeSupported"/>  
 <enumeration value="dpcModeChangeNotSupported"/>  
 </restriction>  
 </simpleType>

<simpleType name="sttdSupport">  
 <restriction base="string">  
 <enumeration value="active"/>  
 <enumeration value="inactive"/>  
 </restriction>  
 </simpleType>

<simpleType name="closedLoopMode1">  
 <restriction base="string">  
 <enumeration value="closedLoopMode1Supported"/>  
 <enumeration value="closedLoopMode1NotSupported"/>  
 </restriction>  
 </simpleType>

<simpleType name="frameOffset">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="255"/>  
 </restriction>  
 </simpleType>

<simpleType name="cellIndividualOffset">  
 <restriction base="decimal">

<fractionDigits value="1"/>  
 <minInclusive value="-10"/>  
 <maxInclusive value="10"/>  
 </restriction>  
 </simpleType>

<simpleType name="hcsPrio">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="7"/>  
 </restriction>  
 </simpleType>

<simpleType name="maximumAllowedUlTxPower">  
 <restriction base="integer">  
 <minInclusive value="-50"/>  
 <maxInclusive value="33"/>  
 </restriction>  
 </simpleType>

<simpleType name="qrxlevMin">  
 <restriction base="integer">  
 <minInclusive value="-115"/>  
 <maxInclusive value="-25"/>  
 </restriction>  
 </simpleType>

<simpleType name="deltaQrxlevmin">  
 <restriction base="integer">  
 <minInclusive value="-4"/>  
 <maxInclusive value="-2"/>  
 </restriction>  
 </simpleType>

<simpleType name="qhcs">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="99"/>  
 </restriction>  
 </simpleType>

<simpleType name="penaltyTime">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="60"/>  
 </restriction>  
 </simpleType>

<simpleType name="referenceTimeDifferenceToCell">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="38400"/>  
 </restriction>  
 </simpleType>

<simpleType name="readSFNIndicator">  
 <restriction base="string">  
 <enumeration value="TRUE"/>  
 <enumeration value="FALSE"/>  
 </restriction>  
 </simpleType>

<complexType name="snaList">

<sequence>

<element name="snac" maxOccurs="65535">

<simpleType>

<restriction base="integer">

<minInclusive value="1"/>

<maxInclusive value="65536"/>

</restriction>

</simpleType>

</element>

</sequence>

</complexType>

<complexType name="snaInformation">

<sequence>

<element name="mcc">

<simpleType>

<restriction base="integer">

<minInclusive value="0"/>

<maxInclusive value="999"/>

</restriction>

</simpleType>

</element>

<element name="mnc">

<simpleType>

<restriction base="integer">

<enumeration value="0"/>

<enumeration value="999"/>

</restriction>

</simpleType>

</element>

<element name="snaList" type="un:snaList"/>

</sequence>

</complexType>

<simpleType name="qqualMin">  
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 <maxInclusive value="0"/>  
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<simpleType name="temporaryOffset1">  
 <restriction base="integer">  
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 <maxInclusive value="21"/>  
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<simpleType name="temporaryOffset2">  
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 <minInclusive value="2"/>  
 <maxInclusive value="12"/>  
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<simpleType name="txDiversityIndicator">  
 <restriction base="string">

<enumeration value="none"/>  
 <enumeration value="PrimaryCpichBroadcastFrom2Antennas"/>  
 <enumeration value="SttdAppliedToPrimaryCCPCH"/>

<enumeration value="TstdAppliedToPrimarySchAndSecondarySch"/>  
 </restriction>  
 </simpleType>

<complexType name="cellCapabilityContainerFDD">  
 <complexContent>  
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 <element name="Flexible\_Hard\_Split\_Support\_Indicator" minOccurs="0"/>  
 <element name="Delayed\_Activation\_Support\_Indicator" minOccurs="0"/>  
 <element name="HS\_DSCH\_Support\_Indicator" minOccurs="0"/>  
 <element name="DSCH\_Support\_Indicator" minOccurs="0"/>  
 <element name="F\_DPCH\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_TTI2ms\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_2sf2\_and\_all\_inferior\_SFs\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_2sf4\_and\_all\_inferior\_SFs\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_sf4\_and\_all\_inferior\_SFs\_Support\_Indicator" minOccurs="0"/>

<element name="E\_DCH\_sf8\_and\_all\_inferior\_SFs\_Support\_Indicator" minOccurs="0"/>  
 <element name="E\_DCH\_HARQ\_IR\_Combining\_Support\_Indicator" minOccurs="0"/>

<element name="E\_DCH\_HARQ\_Chase\_Combining\_Support\_Indicator" minOccurs="0"/>  
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 <choice minOccurs="0" maxOccurs="unbounded">  
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 </extension>  
 </complexContent>  
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<simpleType name="sctdIndicator">  
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 <enumeration value="inactive"/>  
 </restriction>  
 </simpleType>

<simpleType name="dpchConstantValue">  
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 <maxInclusive value="10"/>  
 </restriction>  
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<complexType name="cellCapabilityContainerTDD">  
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 <extension base="xn:NrmClass">  
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 <element name="attributes" minOccurs="0">  
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 <element name="HS\_DSCH\_Support\_Indicator" minOccurs="0"/>  
 <element name="DSCH\_Support\_Indicator" minOccurs="0"/>  
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<simpleType name="tstdIndicator">  
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 <enumeration value="inactive"/>  
 </restriction>  
 </simpleType>

<simpleType name="timeSlotForSch">  
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 <maxInclusive value="14"/>  
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<simpleType name="schTimeSlot">  
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 <maxInclusive value="6"/>  
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<simpleType name="syncCase">  
 <restriction base="string">  
 <enumeration value="SCH and PCCPCH allocated in a single TS"/>  
 <enumeration value="SCH and PCCPCH allocated in two TS, TS#k and TS#k+8"/>  
 </restriction>  
 </simpleType>

<simpleType name="hsFlag">  
 <restriction base="integer">  
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 </simpleType>

<simpleType name="hsEnable">  
 <restriction base="integer">  
 <minInclusive value="0"/>  
 <maxInclusive value="1"/>  
 </restriction>  
 </simpleType>

<simpleType name="numOfHspdschs">  
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<complexType name="NsPlmnId">

<sequence>

<element name="mcc" type="short"/>

<element name="mnc" type="short"/>

</sequence>

</complexType>

<complexType name="NsPlmnIdListType">

<sequence>

<element name="nsPlmnId" type="un:NsPlmnId" minOccurs="0" maxOccurs="5"/>

</sequence>

</complexType>

<simpleType name="numOfHsscchs">  
 <restriction base="integer">  
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 <maxInclusive value="32"/>  
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<simpleType name="eightOctets">

<restriction base="hexBinary">

<length value="8"/>

</restriction>

</simpleType>

<complexType name="uarfcnLCRList">  
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 <element name="uarfcnLCR" maxOccurs="11">  
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 <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="1"/>  
 <element name="timeSlotLCRList" type="un:timeSlotLCRList" minOccurs="0"/>

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 </complexType>

<simpleType name="siptoSupported">  
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 <minInclusive value="0"/>  
 <maxInclusive value="1"/>  
 </restriction>  
 </simpleType>

<complexType name="TceIDMappingInfo">

<sequence>

<element name="tceID" type="short"/>

<element name="tceIPAddr" type="string"/>

</sequence>

</complexType>

<complexType name="TceIDMappingInfoList">

<sequence>

<element name="tceIDMappingInfo" type="un:TceIDMappingInfo" minOccurs="0"/>

</sequence>

</complexType>

<complexType name="SharNetTceMappingInfo">

<sequence>

<element name="pLMNId" type="long"/>

<element name="tceID" type="short"/>

<element name="tceIPAddr" type="string"/>

</sequence>

</complexType>

<complexType name="SharNetTceMappingInfoList">

<sequence>

<element name="sharNetTceMappingInfo" type="un:SharNetTceMappingInfo" minOccurs="0"/>

</sequence>

</complexType>

<!-- UTRAN Network Resources IRP NRM class associated XML elements -->  
  
 <element  
 name="RncFunction"  
 substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"  
 >  
 <complexType>  
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 <extension base="xn:NrmClass">  
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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

<element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>  
 <element name="mcc" type="string" minOccurs="0"/>  
 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="siptoSupported" type="un:siptoSupported" minOccurs="0"/>  
 <element name="tceIDMappingInfoList" type="un:TceIDMappingInfoList" minOccurs="0"/>  
 <element name="sharNetTceMappingInfoList" type="un:SharNetTceMappingInfoList" minOccurs="0"/>  
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 </element>  
 <choice minOccurs="0" maxOccurs="unbounded">  
 <element ref="un:UtranCellFDD"/>

<element ref="un:UtranCellTDDLcr"/>

<element ref="un:UtranCellTDDHcr"/>

<element ref="un:IubLink"/>  
 <element ref="un:RncFunctionOptionallyContainedNrmClass"/>  
 <element ref="xn:VsDataContainer"/>  
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 </sequence>  
 </extension>  
 </complexContent>  
 </complexType>  
 </element>  
  
 <element  
 name="NodeBFunction"  
 substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"  
 >  
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 <extension base="xn:NrmClass">  
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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>

<element name="peeParametersList" type="xn:peeParametersListType" minOccurs="0"/>  
 <element name="nodeBFunctionIubLink" type="string" minOccurs="0"/>  
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 <choice minOccurs="0" maxOccurs="unbounded">  
 <element ref="un:NodeBFunctionOptionallyContainedNrmClass"/>  
 <element ref="xn:VsDataContainer"/>  
 </choice>  
 </sequence>  
 </extension>  
 </complexContent>  
 </complexType>  
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 <element name="UtranGenericCell" abstract="true">  
 <complexType>  
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 <extension base="xn:NrmClass">  
 <sequence>  
 <element name="attributes" minOccurs="0">  
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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
 <element name="cId" type="un:cId" minOccurs="0"/>  
 <element name="localCellId" type="un:localCellId" minOccurs="0"/>  
 <element name="maximumTransmissionPower"  
 type="un:maximumTransmissionPower" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="pichPower" type="un:pichPower" minOccurs="0"/>

<element name="pchPower" type="un:pchPower" minOccurs="0"/>

<element name="fachPower" type="un:fachPower" minOccurs="0"/>

<element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="sac" type="un:sac" minOccurs="0"/>  
 <element name="uraList" type="un:uraList" minOccurs="0"/>  
 <element name="utranCellIubLink" type="xn:dn" minOccurs="0"/>

<element name="relatedAntennaList" type="xn:dnList" minOccurs="0"/>  
 <element name="relatedTmaList" type="xn:dnList" minOccurs="0"/>  
 <element name="operationalState"  
 type="sm:operationalStateType" minOccurs="0"/>

<element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="hsEnable" type="un:hsEnable" minOccurs="0"/>

<element name="numOfHspdschs" type="un:numOfHspdschs" minOccurs="0"/>

<element name="numOfHsscchs" type="un:numOfHsscchs" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset"

type="un:cellIndividualOffset" minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower"

type="un:maximumAllowedUlTxPower" minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="nsPlmnIdList" type="un:NsPlmnIdListType" minOccurs="0"/>

<element name="restrictionStateIndicator"

type="un:restrictionStateIndicator" minOccurs="0"/>

<element name="dpcModechangeSupportIndicator"

type="un:dpcModeChangeSupport" minOccurs="0"/>

<element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>

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 <choice minOccurs="0" maxOccurs="unbounded">  
 <element ref="un:UtranRelation"/>  
 <element ref="gn:GsmRelation"/>  
 <element ref="un:UtranGenericCellOptionallyContainedNrmClass"/>  
 <element ref="xn:VsDataContainer"/>  
 </choice>  
 </sequence>  
 </extension>  
 </complexContent>  
 </complexType>  
 </element>

<element name="UtranCellFDD">  
 <complexType>  
 <complexContent>  
 <extension base="xn:NrmClass">  
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 <element name="attributes" minOccurs="0">  
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<!-- Inherited attributes from UtranGenericCell -->

<element name="userLabel" type="string" minOccurs="0"/>

<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
 <element name="cId" type="un:cId" minOccurs="0"/>  
 <element name="localCellId" type="un:localCellId" minOccurs="0"/>  
 <element name="maximumTransmissionPower"  
 type="un:maximumTransmissionPower" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="pichPower" type="un:pichPower" minOccurs="0"/>

<element name="pchPower" type="un:pchPower" minOccurs="0"/>

<element name="fachPower" type="un:fachPower" minOccurs="0"/>

<element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="sac" type="un:sac" minOccurs="0"/>  
 <element name="uraList" type="un:uraList" minOccurs="0"/>  
 <element name="utranCellIubLink" type="xn:dn" minOccurs="0"/>

<element name="relatedAntennaList" type="xn:dnList" minOccurs="0"/>  
 <element name="relatedTmaList" type="xn:dnList" minOccurs="0"/>

<element name="operationalState"  
 type="sm:operationalStateType" minOccurs="0"/>

<element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="hsEnable" type="un:hsEnable" minOccurs="0"/>

<element name="numOfHspdschs" type="un:numOfHspdschs" minOccurs="0"/>

<element name="numOfHsscchs" type="un:numOfHsscchs" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset"

type="un:cellIndividualOffset" minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower"

type="un:maximumAllowedUlTxPower" minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="nsPlmnIdList" type="un:NsPlmnIdListType" minOccurs="0"/>

<element name="restrictionStateIndicator"

type="un:restrictionStateIndicator" minOccurs="0"/>

<element name="dpcModechangeSupportIndicator"

type="un:dpcModeChangeSupport" minOccurs="0"/>

<element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>

<!-- End of inherited attributes from UtranGenericCell -->

<element name="uarfcnUl" type="un:uarfcnAnyMode" minOccurs="0"/>

<element name="uarfcnDl" type="un:uarfcnAnyMode" minOccurs="0"/>

<element name="primaryScramblingCode" type="un:primaryScramblingCode"

minOccurs="0"/>

<element name="primaryCpichPower" type="un:primaryCpichPower" minOccurs="0"/>

<element name="primarySchPower" type="un:primarySchPower" minOccurs="0"/>

<element name="secondarySchPower" type="un:secondarySchPower" minOccurs="0"/>

<element name="bchPower" type="un:bchPower" minOccurs="0"/>

<element name="aichPower" type="un:aichPower" minOccurs="0"/>

<element name="qqualMin" type="un:qqualMin" minOccurs="0"/>

<element name="cellCapabilityContainerFDD" type="un:cellCapabilityContainerFDD"

minOccurs="0"/>

<element name="txDiversityIndicator" type="un:txDiversityIndicator"

minOccurs="0"/>

<element name="temporaryOffset1" type="un:temporaryOffset1" minOccurs="0"/>

<element name="temporaryOffset2" type="un:temporaryOffset2" minOccurs="0"/>

<element name="sttdSupportIndicator" type="un:sttdSupport" minOccurs="0"/>

<element name="closedLoopModelSupportIndicator" type="un:closedLoopMode1"

minOccurs="0"/>

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 <element ref="un:UtranRelation"/>  
 <element ref="gn:GsmRelation"/>  
 <element ref="un:UtranCellFDDOptionallyContainedNrmClass"/>  
 <element ref="xn:VsDataContainer"/>  
 </choice>  
 </sequence>  
 </extension>  
 </complexContent>  
 </complexType>  
 </element>

<element name="UtranCellTDD" abstract="true">  
 <complexType>  
 <complexContent>  
 <extension base="xn:NrmClass">  
 <sequence>  
 <element name="attributes" minOccurs="0">  
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<!-- Inherited attributes from UtranGenericCell -->

<element name="userLabel" type="string" minOccurs="0"/>

<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
 <element name="cId" type="un:cId" minOccurs="0"/>  
 <element name="localCellId" type="un:localCellId" minOccurs="0"/>  
 <element name="maximumTransmissionPower"  
 type="un:maximumTransmissionPower" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="pichPower" type="un:pichPower" minOccurs="0"/>

<element name="pchPower" type="un:pchPower" minOccurs="0"/>

<element name="fachPower" type="un:fachPower" minOccurs="0"/>

<element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="sac" type="un:sac" minOccurs="0"/>  
 <element name="uraList" type="un:uraList" minOccurs="0"/>  
 <element name="utranCellIubLink" type="xn:dn" minOccurs="0"/>

<element name="relatedAntennaList" type="xn:dnList" minOccurs="0"/>  
 <element name="relatedTmaList" type="xn:dnList" minOccurs="0"/>  
 <element name="operationalState"  
 type="sm:operationalStateType" minOccurs="0"/>

<element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="hsEnable" type="un:hsEnable" minOccurs="0"/>

<element name="numOfHspdschs" type="un:numOfHspdschs" minOccurs="0"/>

<element name="numOfHsscchs" type="un:numOfHsscchs" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset"

type="un:cellIndividualOffset" minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower"

type="un:maximumAllowedUlTxPower" minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="nsPlmnIdList" type="un:NsPlmnIdListType" minOccurs="0"/>

<element name="restrictionStateIndicator"

type="un:restrictionStateIndicator" minOccurs="0"/>

<element name="dpcModechangeSupportIndicator"

type="un:dpcModeChangeSupport" minOccurs="0"/>

<element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>

<!-- End of inherited attributes from UtranGenericCell -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>

<element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>

<element name="primaryCcpchPower" type="un:primaryCcpchPower" minOccurs="0"/>

<element name="cellCapabilityContainerTDD" type="un:cellCapabilityContainerTDD"

minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

<element name="dpchConstantValue" type="un:dpchConstantValue" minOccurs="0"/>

</all>  
 </complexType>  
 </element>  
 <choice minOccurs="0" maxOccurs="unbounded">  
 <element ref="un:UtranRelation"/>  
 <element ref="gn:GsmRelation"/>  
 <element ref="un:UtranCellTDDOptionallyContainedNrmClass"/>  
 <element ref="xn:VsDataContainer"/>  
 </choice>  
 </sequence>  
 </extension>  
 </complexContent>  
 </complexType>  
 </element>

<element name="UtranCellTDDLcr">  
 <complexType>  
 <complexContent>  
 <extension base="xn:NrmClass">  
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<!-- Inherited attributes from UtranGenericCell via UtranCellTDD -->

<element name="userLabel" type="string" minOccurs="0"/>

<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
 <element name="cId" type="un:cId" minOccurs="0"/>  
 <element name="localCellId" type="un:localCellId" minOccurs="0"/>  
 <element name="maximumTransmissionPower"  
 type="un:maximumTransmissionPower" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="pichPower" type="un:pichPower" minOccurs="0"/>

<element name="pchPower" type="un:pchPower" minOccurs="0"/>

<element name="fachPower" type="un:fachPower" minOccurs="0"/>

<element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="sac" type="un:sac" minOccurs="0"/>  
 <element name="uraList" type="un:uraList" minOccurs="0"/>  
 <element name="utranCellIubLink" type="xn:dn" minOccurs="0"/>

<element name="relatedAntennaList" type="xn:dnList" minOccurs="0"/>  
 <element name="relatedTmaList" type="xn:dnList" minOccurs="0"/>  
 <element name="operationalState"  
 type="sm:operationalStateType" minOccurs="0"/>

<element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="hsEnable" type="un:hsEnable" minOccurs="0"/>

<element name="numOfHspdschs" type="un:numOfHspdschs" minOccurs="0"/>

<element name="numOfHsscchs" type="un:numOfHsscchs" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset"

type="un:cellIndividualOffset" minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower"

type="un:maximumAllowedUlTxPower" minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="nsPlmnIdList" type="un:NsPlmnIdListType" minOccurs="0"/>

<element name="restrictionStateIndicator"

type="un:restrictionStateIndicator" minOccurs="0"/>

<element name="dpcModechangeSupportIndicator"

type="un:dpcModeChangeSupport" minOccurs="0"/>

<element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>

<!-- End of inherited attributes from UtranGenericCell via UtranCellTDD -->

<!-- Inherited attributes from UtranCellTDD -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>

<element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>

<element name="primaryCcpchPower" type="un:primaryCcpchPower" minOccurs="0"/>

<element name="cellCapabilityContainerTDD" type="un:cellCapabilityContainerTDD"

minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

<element name="dpchConstantValue" type="un:dpchConstantValue" minOccurs="0"/>

<!-- End of inherited attributes from UtranCellTDD -->

<element name="uarfcnLCRList" type="un:uarfcnLCRList" minOccurs="0"/>

<element name="fpachPower" type="un:fpachPower" minOccurs="0"/>

<element name="dwPchPower" type="un:dwPchPower" minOccurs="0"/>

<element name="tstdIndicator" type="un:tstdIndicator" minOccurs="0"/>

<element name="timeSlotLCRList" type="un:timeSlotLCRList" minOccurs="0"/>

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<!-- Inherited attributes from UtranGenericCell via UtranCellTDD -->

<element name="userLabel" type="string" minOccurs="0"/>

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 <element name="localCellId" type="un:localCellId" minOccurs="0"/>  
 <element name="maximumTransmissionPower"  
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 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
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<element name="fachPower" type="un:fachPower" minOccurs="0"/>

<element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="sac" type="un:sac" minOccurs="0"/>  
 <element name="uraList" type="un:uraList" minOccurs="0"/>  
 <element name="utranCellIubLink" type="xn:dn" minOccurs="0"/>

<element name="relatedAntennaList" type="xn:dnList" minOccurs="0"/>  
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<element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="hsEnable" type="un:hsEnable" minOccurs="0"/>

<element name="numOfHspdschs" type="un:numOfHspdschs" minOccurs="0"/>

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<element name="maximumAllowedUlTxPower"

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<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="nsPlmnIdList" type="un:NsPlmnIdListType" minOccurs="0"/>

<element name="restrictionStateIndicator"

type="un:restrictionStateIndicator" minOccurs="0"/>

<element name="dpcModechangeSupportIndicator"

type="un:dpcModeChangeSupport" minOccurs="0"/>

<element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>

<!-- End of inherited attributes from UtranGenericCell via UtranCellTDD -->

<!-- Inherited attributes from UtranCellTDD -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>

<element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>

<element name="primaryCcpchPower" type="un:primaryCcpchPower" minOccurs="0"/>

<element name="cellCapabilityContainerTDD" type="un:cellCapabilityContainerTDD"

minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

<element name="dpchConstantValue" type="un:dpchConstantValue" minOccurs="0"/>

<!-- End of inherited attributes from UtranCellTDD -->

<element name="schPower" type="un:schPower" minOccurs="0"/>

<element name="temporaryOffset1" type="un:temporaryOffset1" minOccurs="0"/>

<element name="syncCase" type="un:syncCase" minOccurs="0"/>

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<element name="schTimeSlot" type="un:schTimeSlot" minOccurs="0"/>

<element name="timeSlotHCRList" type="un:timeSlotHCRList" minOccurs="0"/>

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 <element name="iubLinkATMChannelTerminationPoint" type="xn:dn" minOccurs="0"/>  
 <element name="iubLinkNodeBFunction" type="xn:dn" minOccurs="0"/>  
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 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="controllingRnc" type="xn:dn" minOccurs="0"/>  
 <element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset" type="un:cellIndividualOffset"

minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower" type="un:maximumAllowedUlTxPower"

minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

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<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="restrictionStateIndicator" type="un:restrictionStateIndicator"

minOccurs="0"/>

<element name="dpcModeChangeSupportIndicator" type="un:dpcModeChangeSupport"

minOccurs="0"/>

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 </complexType>  
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<!-- Inherited attributes from ExternalUtranGenericCell -->

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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
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 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="controllingRnc" type="xn:dn" minOccurs="0"/>  
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<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset" type="un:cellIndividualOffset"

minOccurs="0"/>

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<element name="maximumAllowedUlTxPower" type="un:maximumAllowedUlTxPower"

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<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="restrictionStateIndicator" type="un:restrictionStateIndicator"

minOccurs="0"/>

<element name="dpcModeChangeSupportIndicator" type="un:dpcModeChangeSupport"

minOccurs="0"/>

<!-- End of inherited attributes from ExternalUtranGenericCell -->

<element name="uarfcnUl" type="un:uarfcnAnyMode" minOccurs="0"/>  
 <element name="uarfcnDl" type="un:uarfcnAnyMode" minOccurs="0"/>  
 <element name="primaryScramblingCode" type="un:primaryScramblingCode"

minOccurs="0"/>  
 <element name="primaryCpichPower" type="un:primaryCpichPower" minOccurs="0"/>

<element name="aichPower" type="un:aichPower" minOccurs="0"/>

<element name="qqualMin" type="un:qqualMin" minOccurs="0"/>

<element name="cellCapabilityContainerFDD" type="un:cellCapabilityContainerFDD"

minOccurs="0"/>

<element name="txDiversityIndicator" type="un:txDiversityIndicator"

minOccurs="0"/>

<element name="temporaryOffset1" type="un:temporaryOffset1" minOccurs="0"/>

<element name="temporaryOffset2" type="un:temporaryOffset2" minOccurs="0"/>

<element name="sttdSupportIndicator" type="un:sttdSupport" minOccurs="0"/>

<element name="closedLoopMode1SupportIndicator" type="un:closedLoopMode1"

minOccurs="0"/>

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<!-- Inherited attributes from ExternalUtranGenericCell -->

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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
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 <element name="mcc" type="string" minOccurs="0"/>  
 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="controllingRnc" type="xn:dn" minOccurs="0"/>  
 <element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset" type="un:cellIndividualOffset"

minOccurs="0"/>

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<element name="maximumAllowedUlTxPower" type="un:maximumAllowedUlTxPower"

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<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="restrictionStateIndicator" type="un:restrictionStateIndicator"

minOccurs="0"/>

<element name="dpcModeChangeSupportIndicator" type="un:dpcModeChangeSupport"

minOccurs="0"/>

<!-- End of inherited attributes from ExternalUtranGenericCell -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>  
 <element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>  
 <element name="primaryCcpchPower" type="un:primaryCcpchPower" minOccurs="0"/>

<element name="cellCapabilityContainerTDD"

type="un:cellCapabilityContainerTDD" minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

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<!--Inherited attributes from ExternalUtranGenericCell via ExternalUtranCellTDD-->

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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
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 <element name="mcc" type="string" minOccurs="0"/>  
 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="cellMode" type="un:cellMode" minOccurs="0"/>  
 <element name="lac" type="un:lac" minOccurs="0"/>  
 <element name="rac" type="un:rac" minOccurs="0"/>  
 <element name="controllingRnc" type="xn:dn" minOccurs="0"/>  
 <element name="hsFlag" type="un:hsFlag" minOccurs="0"/>

<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset" type="un:cellIndividualOffset"

minOccurs="0"/>

<element name="hcsPrio" type="un:hcsPrio" minOccurs="0"/>

<element name="maximumAllowedUlTxPower" type="un:maximumAllowedUlTxPower"

minOccurs="0"/>

<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="restrictionStateIndicator" type="un:restrictionStateIndicator"

minOccurs="0"/>

<element name="dpcModeChangeSupportIndicator" type="un:dpcModeChangeSupport"

minOccurs="0"/>

<!-- End of inherited attributes from ExternalUtranGenericCell -->

<!-- Inherited attributes from ExternalUtranCellTDD -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>  
 <element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>  
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<element name="cellCapabilityContainerTDD"

type="un:cellCapabilityContainerTDD" minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

<element name="dpchConstantValue" type="un:dpchConstantValue" minOccurs="0"/>  
 <!-- End of inherited attributes from ExternalUtranCellTDD -->

<element name="temporaryOffset1" type="un:temporaryOffset1" minOccurs="0"/>

<element name="syncCase" type="un:syncCase" minOccurs="0"/>

<element name="timeSlotForSch" type="un:timeSlotForSch" minOccurs="0"/>

<element name="schTimeSlot" type="un:schTimeSlot" minOccurs="0"/>

<element name="timeSlotHCRList" type="un:timeSlotHCRList" minOccurs="0"/>

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<!--Inherited attributes from ExternalUtranGenericCell via ExternalUtranCellTDD-->

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<element name="frameOffset" type="un:frameOffset" minOccurs="0"/>

<element name="cellIndividualOffset" type="un:cellIndividualOffset"

minOccurs="0"/>

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<element name="maximumAllowedUlTxPower" type="un:maximumAllowedUlTxPower"

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<element name="snaInformation" type="un:snaInformation" minOccurs="0"/>

<element name="qrxlevMin" type="un:qrxlevMin" minOccurs="0"/>

<element name="deltaQrxlevmin" type="un:deltaQrxlevmin" minOccurs="0"/>

<element name="qhcs" type="un:qhcs" minOccurs="0"/>

<element name="penaltyTime" type="un:penaltyTime" minOccurs="0"/>

<element name="referenceTimeDifferenceToCell"

type="un:referenceTimeDifferenceToCell" minOccurs="0"/>

<element name="readSFNIndicator" type="un:readSFNIndicator" minOccurs="0"/>

<element name="restrictionStateIndicator" type="un:restrictionStateIndicator"

minOccurs="0"/>

<element name="dpcModeChangeSupportIndicator" type="un:dpcModeChangeSupport"

minOccurs="0"/>

<!-- End of inherited attributes from ExternalUtranGenericCell -->

<!-- Inherited attributes from ExternalUtranCellTDD -->

<element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>  
 <element name="cellParameterId" type="un:cellParameterId" minOccurs="0"/>  
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<element name="cellCapabilityContainerTDD"

type="un:cellCapabilityContainerTDD" minOccurs="0"/>

<element name="sctdIndicator" type="un:sctdIndicator" minOccurs="0"/>

<element name="dpchConstantValue" type="un:dpchConstantValue" minOccurs="0"/>  
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<element name="tstdIndicator" type="un:tstdIndicator" minOccurs="0"/>

<element name="timeSlotLCRList" type="un:timeSlotLCRList" minOccurs="0"/>

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<element name="vnfParametersList" type="xn:vnfParametersListType" minOccurs="0"/>  
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 <element name="mnc" type="string" minOccurs="0"/>  
 <element name="rncId" type="string" minOccurs="0"/>  
 <element name="controlledCellList" type="xn:dnList" minOccurs="0"/>  
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<element ref="un:ExternalUtranCellTDDLcr"/>

<element ref="un:ExternalRncFunctionOptionallyContainedNrmClass"/>  
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 </complexContent>  
 </complexType>  
 </element>

<element name="EP\_Iur">

<complexType>

<complexContent>

<extension base="xn:NrmClass">

<sequence>

<element name="attributes" minOccurs="0">

<complexType>

<all>

<element name="connectedRncId" type="string" minOccurs="0"/>

</all>

</complexType>

</element>

</sequence>

</extension>

</complexContent>

</complexType>

</element>

<element name="RncFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="NodeBFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranGenericCellOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranCellFDDOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranCellTDDOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranCellTDDLcrOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranCellTDDHcrOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="IubLinkOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="UtranRelationOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>

<element name="ExternalUtranGenericCellOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

<element name="ExternalUtranCellFDDOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

<element name="ExternalUtranCellTDDOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

<element name="ExternalUtranCellTDDHcrOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

<element name="ExternalUtranCellTDDLcrOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

<element name="ExternalRncFunctionOptionallyContainedNrmClass"

type="xn:NrmClass" abstract="true"/>

</schema>

Annex C (informative):  
Change history

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Change history | | | | | | | | |
| **Date** | **TSG #** | **TSG Doc.** | **CR** | **Rev** | **Subject/Comment** | **Cat** | **Old** | **New** |
| 2013-03 | SA#59 | SP-130057 | 001 | - | CR R11 28.653 Alignment with 28.652: Addition of missing Network Sharing support for MDT | F | 11.0.0 | 11.1.0 |
| 2013-06 |  |  |  |  | Addition of missing Table of Contents (MCC) |  | 11.1.0 | 11.1.1 |
| 2013-09 | SA#61 | SP-130433 | 002 | 1 | UTRAN NRM SS Correction of wrong import references and name space identifiers | F | 11.1.1 | 11.2.0 |
| 2014-02 |  |  |  |  | Corrected Clause numbering for Change History Annex (MCC) |  | 11.2.0 | 11.2.1 |
| 2014-06 | SA#64 | SP-140332 | 003 | 1 | upgrade XSD | F | 11.2.1 | 11.3.0 |
| SP-140359 | 005 | - | remove the feature support statements | F |
| 2014-09 | SA#65 | SP-140558 | 006 | - | correction of data type | F | 11.3.0 | 11.4.0 |
| SP-140560 | 007 | - | Update the link from Solution Set to Information Service due to the end of Release 12 | C | 11.4.0 | 12.0.0 |
| 2014-12 | SA#66 | SP-140800 | 009 | 1 | Add support for sharing of UTRAN | B | 12.0.0 | 12.1.0 |
| 2015-12 | SA#70 | SP-150691 | 010 | - | Align id attribute definitions | A | 12.1.0 | 12.2.0 |
| 2016-01 | SA#70 |  |  |  | Upgrade to Release 13 (MCC) |  | 12.2.0 | 13.0.0 |
| 2016-03 | SA#71 | SP-160031 | 014 | - | Make the XML schema well formed | A | 13.0.0 | 13.1.0 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Change history** | | | | | | | |
| **Date** | **Meeting** | **TDoc** | **CR** | **Rev** | **Cat** | **Subject/Comment** | **New version** |
| 2016-06 | SA#72 | SP-160407 | 0012 | - | F | Update the link from IRP Solution Set to IRP Information Service | 13.2.0 |
| 2017-03 | SA#75 | - | - | - |  | Promotion to Release 14 without technical change | 14.0.0 |
| 2017-06 | SA#76 | SP-170514 | 0016 | - | F | Update link from IRP SS to IS | 14.1.0 |
| 2017-06 | SA#76 | SP-170510 | 0017 | 1 | B | Update the XML Schema definitions to align with IS to support Configuration Management for mobile networks that include virtualized network functions | 14.1.0 |
| 2018-03 | SA#79 | SP-180060 | 0018 | - | B | Add attribute peeParametersList to UTRAN NRM SS | 15.0.0 |
| 2020-07 | - | - | - | - | - | Update to Rel-16 version (MCC) | **16.0.0** |
| 2022-03 | - | - | - | - | - | Update to Rel-17 version (MCC) | **17.0.0** |
| 2024-09 | SA#105 | SP-241164 | 0021 | 1 | F | Rel-17 CR TS 28.653 Correction of XML references | **17.1.0** |