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TECHNICAL SPECIFICATION

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Universal Mobile Telecommunications System (UMTS);
LTE;
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Solution Set (SS) definitions
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Contents

Foreword

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

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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:

32.641:   "Configuration Management (CM); UTRAN Network Resources Integration Reference Point (IRP); Requirements".

32.642:   "Configuration Management (CM); UTRAN Network Resources Integration Reference Point (IRP); Network Resource Model (NRM)".

32.646:   Configuration Management (CM); UTRAN Network Resources Integration Reference Point (IRP); Solution Set (SS) definitions

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 (QoS). 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.

1   Scope

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

This Solution Set specification is related to 3GPP TS 32.642 V11.4.X [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 32.642: "Telecommunication management; Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

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

[6]   3GPP TS 32.306: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP); Solution Set (SS) definitions".

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

[8]   W3C REC-xml-20001006: "Extensible Markup Language (XML) 1.0 (Second Edition)".

[9]   W3C REC-xmlschema-0-20010502: "XML Schema Part 0: Primer".

[10]   W3C REC-xmlschema-1-20010502: "XML Schema Part 1: Structures".

[11]   W3C REC-xmlschema-2-20010502: "XML Schema Part 2: Datatypes".

[12]   W3C REC-xml-names-19990114: "Namespaces in XML".

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].

XML file: file containing an XML document

XML document: composed of the succession of an optional XML declaration followed by a root XML element

NOTE: See [8]; in the scope of the present document.

XML declaration: it specifies the version of XML being used

NOTE: See [8].

XML element: has a type, is identified by a name, may have a set of XML attribute specifications and is either composed of the succession of an XML start-tag followed by the XML content of the XML element followed by an XML end-tag, or composed simply of an XML empty-element tag; each XML element may contain other XML elements

NOTE: See [8].

empty XML element: having an empty XML content; an empty XML element still possibly has a set of XML attribute specifications; an empty XML element is either composed of the succession of an XML start-tag directly followed by an XML end-tag, or composed simply of an XML empty-element tag

NOTE: See [8].

XML content (of an XML element): empty if the XML element is simply composed of an XML empty-element tag; otherwise the part, possibly empty, of the XML element between its XML start-tag and its XML end-tag

XML start-tag: the beginning of a non-empty XML element is marked by an XML start-tag containing the name and the set of XML attribute specifications of the XML element

NOTE: See [8].

XML end-tag: the end of a non-empty XML element is marked by an XML end-tag containing the name of the XML element

NOTE: See [8].

XML empty-element tag: composed simply of an empty-element tag containing the name and the set of XML attribute specifications of the XML element.

NOTE: See [8].

XML attribute specification: has a name and a value

NOTE: See [8].

DTD: defines structure and content constraints to be respected by an XML document to be valid with regard to this DTD

NOTE: See [8].

XML schema: more powerful than a DTD, an XML schema defines structure and content constraints to be respected by an XML document to conform with this XML schema; through the use of XML namespaces several XML schemas can be used together by a single XML document; an XML schema is itself also an XML document that shall conform with the XML schema for XML schemas

NOTE: See [9], [10] and [11].

XML namespace: enables qualifying element and attribute names used in XML documents by associating them with namespaces identified by different XML schemas

NOTE: See [12], in the scope of the present document.

XML complex type: defined in an XML schema; cannot be directly used in an XML document; can be the concrete type or the derivation base type for an XML element type or for another XML complex type; ultimately defines constraints for an XML element on its XML attribute specifications and/or its XML content

NOTE: See [9], [10] and [11].

XML element type: declared by an XML schema; can be directly used in an XML document; as the concrete type of an XML element, directly or indirectly defines constraints on its XML attribute specifications and/or its XML content; can also be the concrete type or the derivation base type for another XML element type

NOTE: See [9], [10] and [11].

For additional 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:

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

This annex contains the CORBA Solution Set for the IRP whose semantics is specified in UTRAN NRM IRP: Information Service (TS 32.642 [4]).

A.1 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.

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

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

A.1.2.1 Allowed extensions

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

NRM MOCs may be subclassed. Subclassed MOCs 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 shall support all attributes of its superior class. Vendor-specific attributes cannot be added to 3GPP SA5 NRM MOCs 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).

Managed Object Instances may be instantiated as CORBA objects. This requires that the MOCs be represented in IDL. 3GPP SA5's NRM MOCs 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.

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

A.1.2.2 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) specified in the present document may not be subclassed or extended. New interfaces may be defined with vendor-specific methods.

A.2 Mapping

A.2.1 General mapping

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.

A.2.2 Information Object Class (IOC) mapping

This Solution Set supports reference attributes for relations other than containment relations between objects. Reference attributes are therefore introduced in each MOC where needed.

A.2.2.1 IOC RncFunction

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

NRM Attributes of IOC RncFunction in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read
id	rncFunctionId	string	M	M
intraANRSwitch	intraANRSwitch	boolean	CM	M
iRATANRSwitch	iRATANRSwitch	boolean	CM	M
mcc	mcc	long	M	M
mnc	mnc	long	M	M
rncId	rncId	long	M	M
siptoSupported	siptoSupported	short	M	M
tceIDMappingInfoList	tceIDMappingInfoList	GenericNRMAttributeTypes:: TceIDMappingInfoListType	CM	M
sharNetTceMappingInfoList	sharNetTceMappingInfoList	genericEUTRANNRMAttributeTypes:: SharNetTceMappingInfo	CM	M

A.2.2.2 IOC UtranGenericCell

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

NRM Associations/Attributes of IOC UtranGenericCell in TS 32.642 [4]	SS Attributes	SS Type	Suppor Qualifie
id	id	string	M
cId	cId	long	M
localCellId	localCellId	long	M
relatedAntennaList	relatedAntennaList	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet	O
maximumTransmissionPower	maximumTransmissionPower	short	M
lac	lac	long	M
pichPower	pichPower	float	CM
pchPower	pchPower	float	CM
fachPower	fachPower	float	CMO
rac	rac	long	CM
sac	sac	long	M
uraList	uraList	GenericNetworkResourcesIRPSystem::AttributeTypes::LongSet	CM
AssociatedWith/ utranCell-IubLink	utranCellIubLink	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReference	M
cellMode	cellMode	GenericNRMAttributeTypes:: CellModeEnumType	M
operationalState	operationalState	StateManagementIRPOptConstDefs::OperationalStateTypeOpt	O
hsFlag	hsFlag	short	CM
hsEnable	hsEnable	short	CM
numOfHspdschs	numOfHspdschs	short	CM
numOfHsscchs	numOfHsscchs	short	O
frameOffset	frameOffset	short	CO
cellIndividualOffset	cellIndividualOffset	float	CO
hcsPrio	hcsPrio	short	CO
maximumAllowedUlTxPower	maximumAllowedUlTxPower	short	CO
snaInformation	snaInformation	GenericNetworkResourceMAttributeTypes:: snaInformationType	CO
qrxlevMin	qrxlevMin	short	CO
deltaQrxlevmin	deltaQrxlevmin	short	CO
qhcs	qhcs	short	CO
penaltyTime	penaltyTime	short	CO
referenceTimeDifferenceToCell	referenceTimeDifferenceToCell	short	CO
readSFNIndicator	readSFNIndicator	boolean	CO
restrictionStateIndicator	restrictionStateIndicator	GenericNetworkResourceMAttributeTypes:: restrictionStateEnumType	CO
dpcModeChangeSupportIndicator	dpcModeChangeSupportIndicator	GenericNetworkResourceMAttributeTypes:: dpcModeChangeSupportEnumType	CO
relatedTmaList	relatedTmaList	GenericNetworkResourceIRPSystem::AttributeTypes::MOReferenceSet	O
relatedSectorEquipment	relatedSectorEquipment	GenericNetworkResourceIRPSystem::AttributeTypes::MOReference	O
isChangeForEnergySavingAllowed	isChangeForEnergySavingAllowed	boolean	CM
NOTE 1: For all support qualifiers with the value "O", see attribute constraints in TS 32.642 [4]. NOTE 2: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4]. NOTE 3: For all support qualifiers with the value "CM" see attribute constraints in TS 32.642 [4].			

A.2.2.3 IOC NodeBFunction

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

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

A.2.2.4 IOC IubLink

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

NRM Attributes of IOC IubLink in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`id`	`iubLinkId`	string	M	M	-
`AssociatedWith/ iubLink-UtranCell`	`iubLinkUtranCell`	GenericNetworkResourcesIRPSystem::AttributeTypes:: MOReferenceSet	M	M	M
`ConnectedTo/ iubLink-NodeBFunction`	`iubLinkNodeBFunction`	GenericNetworkResourcesIRPSystem::AttributeTypes:: MOReference	M	M	-
`AssociatedWith1/ iubLink-ATMChannelTerminationPoint`	`iubLinkATMChannelTermination Point`	GenericNetworkResourcesIRPSystem::AttributeTypes:: MOReference	M	M	-

A.2.2.5 IOC ExternalUtranGenericCell

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

NRM Attributes of IOC ExternalUtranGenericCell in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`id`	`id`	string	M	M	-
`cId`	`cId`	long	M	M	M
`Mcc`	`mcc`	short	M	M	M
`Mnc`	`mnc`	short	M	M	M
`rncId`	`rncId`	long	M	M	M
`cellMode`	`cellMode`	GenericNRMAttributeTypes::CellModeEnumType	M	M	-
`lac`	`lac`	long	M	M	M
`rac`	`rac`	long	CM	M	M
`controllingRnc`	`controllingRnc`	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReference	O	M	-
`hsFlag`	`hsFlag`	short	CM	M	-
`frameOffset`	`frameOffset`	short	CO	M	-
`cellIndividualOffset`	`cellIndividualOffset`	long	CO	M	-
`hcsPrio`	`hcsPrio`	short	CO	M	-
`maximumAllowedUlTxPower`	`maximumAllowedUlTxPower`	short	CO	M	-
`qrxlevMin`	`qrxlevMin`	short	CO	M	-
`deltaQrxlevmin`	`deltaQrxlevmin`	short	CO	M	-
`Qhcs`	`qhcs`	short	CO	M	-
`penaltyTime`	`penaltyTime`	short	CO	M	-
`referenceTimeDifferenceToCell`	`referenceTimeDifferenceToCell`	short	CO	M	-
`readSFNIndicator`	`readSFNIndicator`	boolean	CO	M	-
`restrictionStateIndicator`	`restrictionStateIndicator`	GenericNetworkResourceMAttributeTypes:: restrictionStateEnumType	CO	M	-
`dpcModeChangeSupportIndicator`	`dpcModeChangeSupportIndicator`	GenericNetworkResourceMAttributeTypes:: dpcModeChangeSupportEnumType	CO	M	-
`snaInformation`	`snaInformation`	GenericNetworkResourceMAttributeTypes:: snaInformationType	CO	M	-
NOTE 1: For all support qualifiers with the value "O", see attribute constraints in TS 32.642 [4]. NOTE 2: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4]. NOTE 3: For all support qualifiers with the value "CM" see attribute constraints in TS 32.642 [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

NRM Attributes of IOC ExternalRncFunction in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`id`	`externalRncFunctionId`	string	M	M	-
`mcc`	`mcc`	long	M	M	M
`mnc`	`mnc`	long	M	M	M
`rncId`	`rncId`	long	M	M	M
`controlledCellList`	`controlledCellList`	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet	O	M	-
NOTE: For all support qualifiers with the value "O", see attribute constraints in TS 32.642 [4].					

A.2.2.8   UtranCellFDD

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

NRM Attributes of IOC UtranCellFDD in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`uarfcnUl`	`uarfcnUl`	short	O	M	M
`uarfcnDl`	`uarfcnDl`	short	O	M	M
`primaryScramblingCode`	`primaryScramblingCode`	short	O	M	M
`primaryCpichPower`	`primaryCpichPower`	float	O	M	M
`primarySchPower`	`primarySchPower`	float	O	M	M
`secondarySchPower`	`secondarySchPower`	float	O	M	M
`bchPower`	`bchPower`	float	O	M	M
`aichPower`	`aichPower`	float	O	M	-
`qqualMin`	`qqualMin`	float	CO	M	-
`cellCapabilityContainerFDD`	`cellCapabilityContainerFDD`	FDDNetworkResourceMAttributeTypes:: CellCapabilityContainerFDDType	CO	M	-
`txDiversityIndicator`	`txDiversityIndicator`	FDDNetworkResourceMAttributeTypes:: txDiversityIndicatorEnumType	CO	M	-
`temporaryOffset1`	`temporaryOffset1`	short	CO	M	-
`temporaryOffset2`	`temporaryOffset2`	short	CO	M	-
`sttdSupportIndicator`	`sttdSupportIndicator`	FDDNetworkResourceMAttributeTypes:: sttdSupportEnumType	CO	M	-
`closedLoopMode1SupportIndicator`	`closedLoopMode1SupportIndicator`	FDDNetworkResourceMAttributeTypes:: closedLoopMode1EnumType	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.9   UtranCellTDD

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

NRM Attributes of IOC UtranCellTDD in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`uarfcn`	`uarfcn`	short	O	M	M
`cellParameterId`	`cellParameterId`	long	O	M	M
`primaryCcpchPower`	`primaryCcpchPower`	float	O	M	M
`cellCapabilityContainerTDD`	`cellCapabilityContainerTDD`	TDDNetworkResourceMAttributeTypes:: CellCapabilityContainerTDDType	CO	M	-
`sctdIndicator`	`sctdIndicator`	TDDNetworkResourceMAttributeTypes:: `sctdSupport`EnumType	CO	M	-
`dpchConstantValue`	`dpchConstantValue`	long	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.10 UtranCellTDDLcr

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

NRM Attributes of IOC UtranCellTDDLcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`uarfcnLCRList`	`uarfcnLCRList`	TDDNRMAttributeTypes:: UarfcnLCRListConfigStructType	O	M	M
`dwPchPower`	`dwPchPower`	float	O	M	M
`fpachPower`	`fpachPower`	float	O	M	O
`tstdIndicator`	`tstdIndicator`	TDDNRMAttributeTypes:: tstdIndicatorEnumType	CO	M	-
`timeSlotLCRList`	`timeSlotLCRList`	TDDNRMAttributeTypes:: TimeSlotListConfigStructType	O	M	M
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.11 UtranCellTDDHcr

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

NRM Attributes of IOC UtranCellTDDHcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
`schPower`	`schPower`	float	O	M	M
`temporaryOffset1`	`temporaryOffset1`	short	CO	M	-
`syncCase`	`syncCase`	short	CO	M	-
`timeSlotForSch`	`timeSlotForSch`	short	CO	M	-
`schTimeSlot`	`schTimeSlot`	short	CO	M	
`timeSlotHCRList`	`timeSlotHCRList`	TDDNRMAttributeTypes:: TimeSlotListConfigStructType	O	M	M
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.12 ExternalUtranCellFDD

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

NRM Attributes of IOC UtranCellTDDHcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
uarfcnUl	uarfcnUl	short	O	M	M
uarfcnDl	uarfcnDl	short	O	M	M
primaryScramblingCode	primaryScramblingCode	short	O	M	M
primaryCpichPower	primaryCpichPower	float	O	M	M
qqualMin	qqualMin	long	CO	M	-
cellCapabilityContainerFDD	cellCapabilityContainerFDD	FDDNetworkResourceMAttributeTypes:: CellCapabilityContainerFDDType	CO	M	-
txDiversityIndicator	txDiversityIndicator	FDDNetworkResourceMAttributeTypes:: txDiversityIndicatorEnumType	CO		-
temporaryOffset1	temporaryOffset1	short	CO	M	-
temporaryOffset2	temporaryOffset2	short	CO	M	-
sttdSupportIndicator	sttdSupportIndicator	FDDNetworkResourceMAttributeTypes:: sttdSupportEnumType	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.13 ExternalUtranCellTDD

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

NRM Attributes of IOC UtranCellTDDHcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
uarfcn	uarfcn	short	O	M	M
cellParameterId	cellParameterId	long	O	M	-
primaryCcpchPower	primaryCcpchPower	float	O	M	-
cellCapabilityContainerTDD	cellCapabilityContainerTDD	TDDNetworkResourceMAttributeTypes:: CellCapabilityContainerFDDType	CO	M	-
sctdIndicator	sctdIndicator	TDDNetworkResourceMAttributeTypes:: sctdSupportEnumType	CO	M	-
dpchConstantValue	dpchConstantValue	long	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.14 ExternalUtranCellTDDHcr

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

NRM Attributes of IOC UtranCellTDDLcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
temporaryOffset1	temporaryOffset1	short	CO	M	-
syncCase	syncCase	short	CO	M	-
timeSlotForSch	timeSlotForSch	short	CO	M	-
schTimeSlot	schTimeSlot	short	CO	M	-
timeSlotHCRList	timeSlotHCRList	TDDNRMAttributeTypes:: TimeSlotListConfigStructType	O	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.15 ExternalUtranCellTDDLcr

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

NRM Attributes of IOC UtranCellTDDLcr in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
tstdIndicator	tstdIndicator	TDDNRMAttributeTypes:: tstdIndicatorEnumType	CO	M	-
timeSlotLCRList	timeSlotLCRList	TDDNRMAttributeTypes:: TimeSlotListConfigStructType	O	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.16 Void

A.2.2.17 IOC UtranRelation

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

NRM Attributes of IOC UtranRelation in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
id	utranRelationId	string	M	M	-
adjacentCell	adjacentCell	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReference	M	M	M
isRemoveAllowed	isRemoveAllowed	boolean	CM	M	M
isHOAllowed	isHOAllowed	boolean	CM	M	M
isESCoveredBy	isESCoveredBy	GenericNRMAttributeTypes::IsEsCoveredByEnumType	CM	M	M
NOTE: For all conditional qualifiers, see attribute constraints in TS 32.642 [4].					

A.2.2.18 IOC EP_IuCS

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

NRM Attributes of IOC EP_IuCS in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
connMscNumber	connMscNumber	unsigned short	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.19 IOC EP_IuPS

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

NRM Attributes of IOC EP_IuCS in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
connSgsnNumber	connSgsnNumber	unsigned short	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [4].					

A.2.2.20 IOC EP_Iur

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

NRM Attributes of IOC EP_Iur in TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
connectedRncId	connectedRncId	unsigned short	CO	M	-
NOTE: For all support qualifiers with the value "CO" see attribute constraints in TS 32.642 [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 intraANRSwitch= "intraANRSwitch";
       const string iRATANRSwitch= "iRATANRSwitch";
       const string rncFunctionId = "rncFunctionId";
       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 id = "id";
       const string utranCellIubLink = "utranCellIubLink";
       const string cId= "cId";
       const string localCellId= "localCellId";

       const string maximumTransmissionPower= "maximumTransmissionPower";
       const string relatedAntennaList= "relatedAntennaList";
       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 string relatedSectorEquipment = "relatedSectorEquipment";
          const string isChangeForEnergySavingAllowed = "isChangeForEnergySavingAllowed";
      };



      /**
       *  Definitions for MO class NodeBFunction
       */
      interface NodeBFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
      {
          const string CLASS = "NodeBFunction";
          // Attribute Names
          //
          const string nodeBFunctionId = "nodeBFunctionId";
          const string nodeBFunctionIubLink = "nodeBFunctionIubLink";
      };

      /**
       *  Definitions for MO class IubLink
       */
      interface IubLink : GenericNetworkResourcesNRMDefs::ManagedFunction
      {
          const string CLASS = "IubLink";
          // Attribute Names
          //
          const string iubLinkId = "iubLinkId";
          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 utranRelationId = "utranRelationId";
          const string adjacentCell = "adjacentCell";
          const string isRemoveAllowed = "isRemoveAllowed";
          const string isHOAllowed = "isHOAllowed";
          const string isESCoveredBy = "isESCoveredBy";
};
/**
       *  Definitions for MO class ExternalUtranGenericCell
       */
      interface ExternalUtranGenericCell  : GenericNetworkResourcesNRMDefs::ManagedFunction
      {
          const string CLASS = "ExternalUtranGenericCell";
          // Attribute Names
          //
          const string id = "id";
          const string cId= "cId";
          const string mcc= "mcc";
          const string mnc= "mnc";
          const string rncId= "rncId";

          const string cellMode = "cellMode";
          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 externalRncFunctionId = "externalRncFunctionId";
      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;
};

      struct SharNetTceMappingInfo
      {
      long PLMNId;
      short tceID;
      string tceIPAddr;
      };
      typedef sequence<SharNetTceMappingInfo> SharNetTceMappingInfoListType;
};
    /**

      enum isEsCoveredByEnumType
      {
       no,
       partial,
       yes
      };
     *  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

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].

B.1 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 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

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 32.642 [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

Not present in the current version of this specification.

B.3.3 XML schema "utranNrm.xsd"

```xml
<?xml version="1.0" encoding="UTF-8"?>

<!--
  3GPP TS 32.646 UTRAN Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.646#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.626#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.646#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.656#geranNrm"
  xmlns:sm=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.676#stateManagementIRP"
  xmlns:en=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.766#eutranNrm"
  xmlns:sp=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.526#sonPolicyNrm">

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.626#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.656#geranNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.676#stateManagementIRP"
  />
<import
     namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.766#eutranNrm"
  />
<import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.526#sonPolicyNrm"
  />
  <!-- 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>
```

```xml
<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">
  <restriction base="integer">
    <minInclusive value="-24"/>
    <maxInclusive value="0"/>
  </restriction>
</simpleType>

<simpleType name="temporaryOffset1">
  <restriction base="integer">
    <minInclusive value="3"/>
    <maxInclusive value="21"/>
  </restriction>
</simpleType>

<simpleType name="temporaryOffset2">
  <restriction base="integer">
    <minInclusive value="2"/>
    <maxInclusive value="12"/>
  </restriction>
</simpleType>
```

```xml
<simpleType name="txDiversityIndicator">
  <restriction base="string">
    <enumeration value="none"/>
    <enumeration value="PrimaryCpichBroadcastFrom2Antennas"/>
    <enumeration value="SttdAppliedToPrimaryCCPCH"/>
    <enumeration value="TstdAppliedToPrimarySchAndSecondarySch"/>
  </restriction>
</simpleType>

<complexType name="cellCapabilityContainerFDD">
  <complexContent>
    <extension base="xn:NrmClass">
      <sequence>
        <element name="attributes" minOccurs="0">
          <complexType>
            <all>
              <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"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
</complexType>

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

<simpleType name="dpchConstantValue">
  <restriction base="integer">
    <minInclusive value="-10"/>
    <maxInclusive value="10"/>
  </restriction>
</simpleType>

<complexType name="cellCapabilityContainerTDD">
  <complexContent>
    <extension base="xn:NrmClass">
      <sequence>
        <element name="attributes" minOccurs="0">
          <complexType>
            <all>
              <element name="Delayed_Activation_Support_Indicator" minOccurs="0"/>
              <element name="HS_DSCH_Support_Indicator" minOccurs="0"/>
              <element name="DSCH_Support_Indicator" minOccurs="0"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<simpleType name="tstdIndicator">
  <restriction base="string">
    <enumeration value="active"/>
```

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```
          <enumeration value="inactive"/>
        </restriction>
      </simpleType>

      <simpleType name="timeSlotForSch">
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="14"/>
        </restriction>
      </simpleType>

      <simpleType name="schTimeSlot">
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="6"/>
        </restriction>
      </simpleType>

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

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

      <simpleType name="numOfHspdschs">
        <restriction base="integer">
          <minInclusive value="0"/>
          <maxInclusive value="95"/>
        </restriction>
      </simpleType>

      <simpleType name="numOfHsscchs">
        <restriction base="integer">
          <minInclusive value="1"/>
          <maxInclusive value="32"/>
        </restriction>
      </simpleType>

      <simpleType name="eightOctets">
        <restriction base="hexBinary">
          <length value="8"/>
        </restriction>
      </simpleType>

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

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

```xml
    </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="SharNetTceMappingInfo">
    <sequence>
      <element name="sharNetTceMappingInfo" type="un:SharNetTceMappingInfo" minOccurs="0"/>
    </sequence>
  </complexType>

  <simpleType name="isESCoveredByEnumType">
    <restriction base="string">
      <enumeration value="no"/>
      <enumeration value="partial"/>
      <enumeration value="yes"/>
    </restriction>
  </simpleType>

  <!-- UTRAN Network Resources IRP NRM class associated XML elements -->

  <element
    name="RncFunction"
    substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" type="string" minOccurs="0"/>
                  <element name="intraANRSwitch" type="boolean" minOccurs="0"/>
                  <element name="iRATANRSwitch" type="boolean" 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">
                  <element name="tceIDMappingInfoList" type="un:TceIDMappingInfoList" minOccurs="0"/>
                  <element name="sharNetTceMappingInfoList" type="un:SharNetTceMappingInfoList"
minOccurs="0"/>
                </all>
              </complexType>
            </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"/>
            </choice>
            <choice minOccurs="0" maxOccurs="1">
              <element ref="sp:InterRatEsPolicies"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>
```

```xml
<element
  name="NodeBFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="nodeBFunctionIubLink" type="string" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:NodeBFunctionOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranGenericCell" abstract="true">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" type="string" 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="restrictionStateIndicator"
                        type="un:restrictionStateIndicator" minOccurs="0"/>
                <element name="dpcModechangeSupportIndicator"
                        type="un:dpcModeChangeSupport" minOccurs="0"/>
                <element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>
                <element name="isChangeForEnergySavingAllowed" type="boolean" minOccurs="0"/>
              </all>
            </complexType>
          </element>
```

```
              </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="un:UtranRelation"/>
              <element ref="gn:GsmRelation"/>
              <element ref="en:EUtranRelation"/>
              <element ref="un:UtranGenericCellOptionallyContainedNrmClass"/>
              <element ref="sp:EnergySavingProperties"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
            <choice minOccurs="0" maxOccurs="1">
              <element ref="sp:InterRatEsPolicies"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="UtranCellFDD">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>

                  <!-- Inherited attributes from UtranGenericCell -->
                  <element name="userLabel" type="string" 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="restrictionStateIndicator"
                          type="un:restrictionStateIndicator" minOccurs="0"/>
                  <element name="dpcModechangeSupportIndicator"
                          type="un:dpcModeChangeSupport" minOccurs="0"/>
                  <element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>
                  <element name="isChangeForEnergySavingAllowed" type="boolean" 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"/>
```

ETSI

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                    <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"/>
                  </all>
                </complexType>
              </element>
              <choice minOccurs="0" maxOccurs="unbounded">
                <element ref="un:UtranRelation"/>
                <element ref="gn:GsmRelation"/>
                <element ref="en:EUtranRelation"/>
                <element ref="un:UtranCellFDDOptionallyContainedNrmClass"/>
                <element ref="sp:EnergySavingProperties"/>
                <element ref="xn:VsDataContainer"/>
              </choice>
              <choice minOccurs="0" maxOccurs="1">
                <element ref="sp:InterRatEsPolicies"/>
              </choice>
            </sequence>
          </extension>
        </complexContent>
      </complexType>
    </element>

    <element name="UtranCellTDD" abstract="true">
        <complexType>
          <complexContent>
            <extension base="xn:NrmClass">
              <sequence>
                <element name="attributes" minOccurs="0">
                  <complexType>
                    <all>

                      <!-- Inherited attributes from UtranGenericCell -->
                      <element name="userLabel" type="string" 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"/>
```

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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"/>
                <element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>
                <element name="isChangeForEnergySavingAllowed" type="boolean" 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="en:EUtranRelation"/>
            <element ref="un:UtranCellTDDOptionallyContainedNrmClass"/>
            <element ref="sp:EnergySavingProperties"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
          <choice minOccurs="0" maxOccurs="1">
            <element ref="sp:InterRatEsPolicies"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranCellTDDLcr">
   <complexType>
     <complexContent>
       <extension base="xn:NrmClass">
         <sequence>
           <element name="attributes" minOccurs="0">
             <complexType>
              <all>

                <!-- Inherited attributes from UtranGenericCell via UtranCellTDD -->
                <element name="userLabel" type="string" 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"/>
```

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                <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"/>
                <element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>
                <element name="isChangeForEnergySavingAllowed" type="boolean" 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"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranRelation"/>
            <element ref="gn:GsmRelation"/>
            <element ref="en:EUtranRelation"/>
            <element ref="un:UtranCellTDDLcrOptionallyContainedNrmClass"/>
            <element ref="sp:EnergySavingProperties"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
          <choice minOccurs="0" maxOccurs="1">
            <element ref="sp:InterRatEsPolicies"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranCellTDDHcr">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>

                  <!-- Inherited attributes from UtranGenericCell via UtranCellTDD -->
                  <element name="userLabel" type="string" 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"/>
```

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                    <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="restrictionStateIndicator"
                            type="un:restrictionStateIndicator" minOccurs="0"/>
                    <element name="dpcModechangeSupportIndicator"
                            type="un:dpcModeChangeSupport" minOccurs="0"/>
                    <element name="relatedSectorEquipment" type="xn:dn" minOccurs="0"/>
                    <element name="isChangeForEnergySavingAllowed" type="boolean" 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"/>
                    <element name="timeSlotForSch" type="un:timeSlotForSch" minOccurs="0"/>
                    <element name="schTimeSlot" type="un:schTimeSlot" minOccurs="0"/>
                    <element name="timeSlotHCRList" type="un:timeSlotHCRList" minOccurs="0"/>
                  </all>
                </complexType>
              </element>
              <choice minOccurs="0" maxOccurs="unbounded">
                <element ref="un:UtranRelation"/>
                <element ref="gn:GsmRelation"/>
                <element ref="en:EUtranRelation"/>
                <element ref="un:UtranCellTDDHcrOptionallyContainedNrmClass"/>
                <element ref="sp:EnergySavingProperties"/>
                <element ref="xn:VsDataContainer"/>
              </choice>
              <choice minOccurs="0" maxOccurs="1">
                <element ref="sp:InterRatEsPolicies"/>
              </choice>
            </sequence>
          </extension>
        </complexContent>
      </complexType>
    </element>

    <element name="IubLink">
      <complexType>
        <complexContent>
          <extension base="xn:NrmClass">
            <sequence>
              <element name="attributes" minOccurs="0">
                <complexType>
                  <all>
                    <element name="userLabel" type="string" minOccurs="0"/>
                    <element name="iubLinkUtranCell" type="xn:dnList" minOccurs="0"/>
                    <element name="iubLinkATMChannelTerminationPoint" type="xn:dn" minOccurs="0"/>
                    <element name="iubLinkNodeBFunction" type="xn:dn" minOccurs="0"/>
                  </all>
                </complexType>
              </element>
              <choice minOccurs="0" maxOccurs="unbounded">
                <element ref="un:IubLinkOptionallyContainedNrmClass"/>
                <element ref="xn:VsDataContainer"/>
              </choice>
```

```
                    </sequence>
                  </extension>
                </complexContent>
              </complexType>
          </element>

          <element name="UtranRelation">
            <complexType>
              <complexContent>
                <extension base="xn:NrmClass">
                  <sequence>
                    <element name="attributes" minOccurs="0">
                      <complexType>
                        <all>
                          <element name="adjacentCell" type="xn:dn"/>
                          <element name="isRemoveAllowed" type="boolean" minOccurs="0"/>
                          <element name="isHOAllowed" type="boolean" minOccurs="0"/>
                          <element name="isESCoveredBy" type="un:isESCoveredByEnumType" minOccurs="0"/>
                        </all>
                      </complexType>
                    </element>
                    <choice minOccurs="0" maxOccurs="unbounded">
                      <element ref="un:UtranRelationOptionallyContainedNrmClass"/>
                      <element ref="xn:VsDataContainer"/>
                    </choice>
                  </sequence>
                </extension>
              </complexContent>
            </complexType>
          </element>

          <element
            name="ExternalUtranGenericCell" abstract="true"
          >
            <complexType>
              <complexContent>
                <extension base="xn:NrmClass">
                  <sequence>
                    <element name="attributes" minOccurs="0">
                      <complexType>
                        <all>
                          <element name="userLabel" type="string" minOccurs="0"/>
                          <element name="cId" type="un:cId" 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="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"/>
                        </all>
                      </complexType>
                    </element>
                    <choice minOccurs="0" maxOccurs="unbounded">
                      <element ref="un:ExternalUtranGenericCellOptionallyContainedNrmClass"/>
                      <element ref="xn:VsDataContainer"/>
                    </choice>
                    <choice minOccurs="0" maxOccurs="1">
                      <element ref="sp:InterRatEsPolicies"/>
```

```
              </choice>
            </sequence>
          </extension>
        </complexContent>
      </complexType>
  </element>

  <element
    name="ExternalUtranCellFDD"
    substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>

                  <!-- Inherited attributes from ExternalUtranGenericCell -->
                  <element name="userLabel" type="string" minOccurs="0"/>
                  <element name="cId" type="un:cId" 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="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 -->

                  <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="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"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="un:ExternalUtranCellFDDOptionallyContainedNrmClass"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
            <choice minOccurs="0" maxOccurs="1">
              <element ref="sp:InterRatEsPolicies"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
```

```
          </complexType>
        </element>

    <element
      name="ExternalUtranCellTDD" abstract="true"
    >
      <complexType>
        <complexContent>
          <extension base="xn:NrmClass">
            <sequence>
              <element name="attributes" minOccurs="0">
                <complexType>
                  <all>

                    <!-- Inherited attributes from ExternalUtranGenericCell -->
                    <element name="userLabel" type="string" minOccurs="0"/>
                    <element name="cId" type="un:cId" 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="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 -->

                    <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:ExternalUtranCellTDDOptionallyContainedNrmClass"/>
                <element ref="xn:VsDataContainer"/>
              </choice>
              <choice minOccurs="0" maxOccurs="1">
                <element ref="sp:InterRatEsPolicies"/>
              </choice>
            </sequence>
          </extension>
        </complexContent>
      </complexType>
    </element>

    <element
      name="ExternalUtranCellTDDHcr"
      substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
    >
      <complexType>
        <complexContent>
          <extension base="xn:NrmClass">
            <sequence>
              <element name="attributes" minOccurs="0">
```

```
          <complexType>
           <all>

              <!--Inherited attributes from ExternalUtranGenericCell via ExternalUtranCellTDD-->
              <element name="userLabel" type="string" minOccurs="0"/>
              <element name="cId" type="un:cId" 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="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"/>
              <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 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"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="un:ExternalUtranCellTDDHcrOptionallyContainedNrmClass"/>
          <element ref="xn:VsDataContainer"/>
        </choice>
        <choice minOccurs="0" maxOccurs="1">
          <element ref="sp:InterRatEsPolicies"/>
        </choice>
      </sequence>
     </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="ExternalUtranCellTDDLcr"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
             <all>

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

```
                        <element name="userLabel" type="string" minOccurs="0"/>
                        <element name="cId" type="un:cId" 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="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"/>
                        <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 ExternalUtranCellTDD -->

                        <element name="tstdIndicator" type="un:tstdIndicator" minOccurs="0"/>
                        <element name="timeSlotLCRList" type="un:timeSlotLCRList" minOccurs="0"/>
                      </all>
                    </complexType>
                  </element>
                  <choice minOccurs="0" maxOccurs="unbounded">
                    <element ref="un:ExternalUtranCellTDDLcrOptionallyContainedNrmClass"/>
                    <element ref="xn:VsDataContainer"/>
                  </choice>
                  <choice minOccurs="0" maxOccurs="1">
                    <element ref="sp:InterRatEsPolicies"/>
                  </choice>
                </sequence>
              </extension>
            </complexContent>
          </complexType>
        </element>

<element
  name="ExternalRncFunction"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" type="string" 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="controlledCellList" type="xn:dnList" minOccurs="0"/>
                </all>
              </complexType>
            </element>
```

```
                    <choice minOccurs="0" maxOccurs="unbounded">
                      <element ref="un:ExternalUtranCellFDD"/>
                      <element ref="un:ExternalUtranCellTDDHcr"/>
                      <element ref="un:ExternalUtranCellTDDLcr"/>
                      <element ref="un:ExternalRncFunctionOptionallyContainedNrmClass"/>
                      <element ref="xn:VsDataContainer"/>
                    </choice>
                    <choice minOccurs="0" maxOccurs="1">
                      <element ref="sp:InterRatEsPolicies"/>
                    </choice>
                  </sequence>
                </extension>
              </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="EP_IuCS"
          substitutionGroup="un:RncFunctionOptionallyContainedNrmClass"
        >
            <complexType>
             <complexContent>
               <extension base="xn:NrmClass">
                 <sequence>
                   <element name="attributes" minOccurs="0">
                     <complexType>
                       <all>
                         <element name="connMscNumber" type="short" minOccurs="0"/>
                       </all>
                     </complexType>
                   </element>
                 </sequence>
               </extension>
             </complexContent>
           </complexType>
          </element>

        <element
          name="EP_IuPS"
          substitutionGroup="un:RncFunctionOptionallyContainedNrmClass"
        >
            <complexType>
             <complexContent>
               <extension base="xn:NrmClass">
                 <sequence>
                   <element name="attributes" minOccurs="0">
                     <complexType>
                       <all>
                         <element name="connSgsnNumber" type="short" 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
05-2010	SA-48	SP-100275	--	--	Presentation to SA for information and approval	--	---	1.0.0
06-2010	SA-48	--	--	--	Publication	--	1.0.0	10.0.0
10-2010	SA-49	SP-100489	001	--	Addition of EP_Iur IOC	B	10.0.0	10.1.0
10-2010	SA-49	SP-100489	002	--	Correct the data type of cellIndividualOffset	F	10.0.0	10.1.0
10-2010	SA-50	SP-100878	004	1	Add the missing value range of maximumAllowedUlTxPower and referenceTimeDifferenceToCell - Align with 32.642 IS	F	10.1.0	10.2.0
10-2010	SA-50	SP-100833	003	1	Add the missing value range of maximumAllowedUlTxPower and referenceTimeDifferenceToCell - Align with 32.642 IS	F	10.1.0	10.2.0
10-2010	SA-50	SP-100750	007	1	Add siptoSupported attribute to RNCFunction – Align with 32.642 IS	B	10.1.0	10.2.0
03-2011	SA-51	SP-110096	008	2	Removing AntennaFunction and TmaFunction - Align with UTRAN NRM IS	F	10.2.0	10.3.0
03-2011	SA-51	SP-110095	009	-	Alignment with IS 32.642; cleanup	F	10.2.0	10.3.0
03-2011	SA-51	SP-110102	012	1	Adding TCE address and TCE ID mapping information to RNCFunction	F	10.2.0	10.3.0
12-2011	SA-54	SP-110706	040	--	Add missing IRAT ANR to UTRAN and Neighbour cell Relation towards E-UTRAN – Align with 32.642	F	10.3.0	10.4.0
06-2012	SA-56	SP-120372	042	1	Add ANR switch management solution – Align with 32.642	B	10.5.0	11.0.0
09-2012	SA-57	SP-120558	044	--	Remove the superfluous attributes in IDL specification and XML schema-Align with 32.642	A	11.0.0	11.1.0
09-2012	SA-57	SP-120573	045	1	Add support for Inter-RAT Energy Saving Management	B	11.0.0	11.1.0
12-2012	SA-58	SP-120800	047	1	Add containment for interRatEsPolicies	B	11.1.0	11.2.0
12-2012	SA-58	SP-120796	050	-	Addition of Network Sharing for MDT	C	11.1.0	11.2.0
2014-10	-	-	-	-	Update to Rel-12 version (MCC	)	11.2.0	**12.0.0**

History

Document history		
V12.0.0	October 2014	Publication