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**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Evolved Packet Core (EPC) Network Resource Model (NRM)
Integration Reference Point (IRP);
Solution Set (SS) Definitions
(3GPP TS 32.756 version 11.0.0 Release 11)**

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Contents

Foreword

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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:

32.751: Evolved Packet Core (EPC) Network Resource Model (NRM) Integration Reference Point (IRP): Requirements

32.752: Evolved Packet Core (EPC) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)

32.756: Evolved Packet Core (EPC) Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions

1 Scope

The TS 32.75x-series (EPC NRM IRP) define an Integration Reference Point (IRP) named EPC Network Resource Model (NRM) IRP, through which an "IRPAgent" (typically an Element Manager or Network Element) can communicate Network Management related information to one or several "IRPManagers" (typically Network Managers).

The present document provides solution set definitions for EPC Network Resources IRP, which define the mapping of the IRP information model (see TS 32.752 [2]) to the protocol specific details necessary for implementation of this IRP.

This Solution Set definitions specification is related to 3GPP TS 32.752 [2] v11.0.X.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- 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 21.905: “Vocabulary for 3GPP Specifications”.

[2] 3GPP TS 32.752: "Telecommunication management; Evolved Packet Core (EPC) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS) (Release 8)”.

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

[4] 3GPP TS 32.606: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP); Solution Set (SS) definitions".

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

[6] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

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

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

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

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

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

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 [7]; in the scope of the present document.

XML declaration: it specifies the version of XML being used

NOTE: See [7].

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 [7].

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 [7].

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 [7].

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 [7].

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 [7].

XML attribute specification: has a name and a value

NOTE: See [7].

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

NOTE: See [7].

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 [8], [9] and [10].

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

NOTE: See [5], 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 [8], [9] and [10].

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 [8], [9] and [10].

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
eNodeB	evolved NodeB
EPC	Evolved Packet Core
EPDG	Evolved Packet Data Gateway
E-UTRAN	Evolved Universal Terrestrial Radio Access Network
GPRS	General Packet Radio System
IS	Information Service
IDL	Interface Definition Language (OMG)
IOC	Information Object Class
IRP	Integration Reference Point
IS	Information Service
MME	Mobility Management Entity
MO	Managed Object
MOC	Managed Object Class
NRM	Network Resource Model
OMG	Object Management Group
PCRF	Policy and Charging Rules Function
P-GW	PDN Gateway
S-GW	Serving Gateway
SS	Solution Set
XML	eXtensible Markup Language

4 Solution Set definitions

This specifications defines the following 3GPP EPC NRM IRP Solution Set definitions:

- 3GPP EPC NRM IRP CORBA SS (Annex A)
- 3GPP EPC 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 EPC Network Resource Model (NRM) IRP: Information Service (TS 32.752 [2]).

A.1 Architectural features

The overall architectural feature of EPC NRM IRP is specified in 3GPP TS 32.752 [2].

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 [6].

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 MMEFunction

Attribute of IOC MMEFunction in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
pLMNIdList	pLMNIdList	genericEPCNRMAttributeTypes:: AttributeTypes:: plmnIdListType	M	M	-
mMEC	mMEC	long	M	M	-
mMEPool	mMEPool	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReference	M	M	-

A.2.2.2 IOC MMEPool

Attribute of IOC MMEPool in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
mMEGI	mMEGI	long	M	M	-
mMEPoolMemberList	mMEPoolMemberList	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReferenceSet	M	M	M
mMEPoolArea	mMEPoolArea	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReference	M	M	M

A.2.2.3 IOC MMEPoolArea

Attribute of IOC MMEPoolArea in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
mMEPool	mMEPool	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReference	M	M	M
tACList	tACList	GenericNetworkResourcesIRPSystem:: AttributeTypes::LongSet	M	M	-
pLMNIdList	pLMNIdList	genericEPCNRMAttributeTypes:: AttributeTypes:: plmnIdListType	O	M	-

A.2.2.4 IOC EP_RP_EPS

Attribute of IOC EP_RP_EPS in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
farEndNeIpAddr	farEndNeIpAddr	string	O	M	CM

A.2.2.5 IOC ExternalMMEFunction

Attribute of IOC ExternalMMEFunction in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
pLMNIdList	pLMNIdList	genericEPCNRMAttributeTypes:: AttributeTypes:: plmnIdListType	M	M	M
mMEC	mMEC	long	M	M	M
mMEPool	mMEPool	GenericNetworkResourcesIRPSystem:: AttributeTypes::MOReference	M	M	M

A.2.2.6 IOC ServingGWFunction

Attribute of IOC ServingGWFunction in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
pLMNIdList	pLMNIdList	genericEPCNRMAttributeTypes:: AttributeTypes:: plmnIdListType	M	M	-
tACList	tACList	GenericNetworkResourcesIRPSystem::AttributeTypes::LongSet	M	M	-

A.2.2.7 IOC ExternalServingGWFunction

Attribute of IOC ExternalServingGWFunction in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
pLMNIdList	pLMNIdList	genericEPCNRMAttributeTypes:: AttributeTypes:: plmnIdListType	M	M	M
tACList	tACList	GenericNetworkResourcesIRPSystem::AttributeTypes::LongSet	M	M	M

A.2.2.8 IOC QCISet

Attribute of IOC QCISet in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-
qCIList	qCIList	genericEPCNRMAttributeTypes:: AttributeTypes:: qciListType	M	M	M

A.2.2.9 IOC MBMSGWFunction

Attribute of IOC MBMSGWFunction in 3GPP TS 32.752 [2]	SS Attribute	SS Type	Support Qualifier	Read Qualifier	Write Qualifier
id	id	string	M	M	-

A.3 Solution Set definitions

A.3.1 IDL definition structure

Clause A.3.2 defines the types and constants which are used by the EPC NRM IRP.

A.3.2 IDL specification "EPCResourcesNRMDefs.idl"

```
//File:EPCResourcesNRMDefs.idl
#ifndef _EPCNETWORKRESOURCESNRMDEFS_IDL_
#define _EPCNETWORKRESOURCESNRMDEFS_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 EPCNetworkResourcesNRMDefs
{

       /**
        *  Definitions for MO class EPDGFunction
        */
       interface EPDGFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "EPDGFunction";
          // No New Attribute Names
          //
       };

       /**
        *  Definitions for MO class MMEFunction
        */
       interface MMEFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "MMEFunction";
          // Attribute Names
          //
          const string id = "id";
          const string pLMNIdList = "pLMNIdList";
          const string mMEC = "mMEC";
          const string mMEPool = "mMEPool";
       };

       /**
        *  Definitions for MO class PCRFFunction
        */
       interface PCRFFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "PCRFFunction";
          // No New Attribute Names
          //
       };

       /**
        *  Definitions for MO class PGWFunction
        */
       interface PGWFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "PGWFunction";
          // No New Attribute Names
          //
          //
       };

       /**
        *  Definitions for MO class ServingGWFunction
        */
       interface ServingGWFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "ServingGWFunction";
```

```
   // Attribute Names
   const string id = "id";
   const string pLMNIdList = "pLMNIdList";
   const string tACList = "tACList";
   //
};

 /**
 *  Definitions for MO class MMEPool
 */
interface MMEPool : GenericNetworkResourcesNRMDefs::ManagedFunction
{
   const string CLASS = "MMEPool";
   // Attribute Names
   //
   const string id = "id";
   const string mMEGI = "mMEGI";
   const string mMEPoolMemberList = "mMEPoolMemberList";
   const string mMEPoolArea = "mMEPoolArea";
};

 /**
 *  Definitions for MO class MMEPoolArea
 */
interface MMEPoolArea : GenericNetworkResourcesNRMDefs::ManagedFunction
{
   const string CLASS = "MMEPoolArea";
   // Attribute Names
   //
   const string id = "id";
   const string mMEPool = "mMEPool";
   const string tACList = "tACList";
   const string sGWAddress = "sGWAddress";
   const string pLMNIdList = "pLMNIdList";
};

 /**
 *  Definitions for MO class EP_RP_EPS
 */
interface EP_RP_EPS : GenericNetworkResourcesNRMDefs::EP_RP
{
   const string CLASS = "EP_RP_EPS";
   // Attribute Names
   const string farEndNeIpAddr = "farEndNeIpAddr";
};

 /**
 *  Definitions for MO class Link_ENB_MME
 */
interface Link_ENB_MME : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_ENB_MME";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_ENB_ServingGW
 */
interface Link_ENB_ServingGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_ENB_ServingGW";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_EPDG_PCRF
 */
interface Link_EPDG_PCRF : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_EPDG_PCRF";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_EPDG_PGW
```

```
 */
interface Link_EPDG_PGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_EPDG_PGW";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_HSS_MME
 */
interface Link_HSS_MME : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_HSS_MME";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_MME_MME
 */
interface Link_MME_MME : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_MME_MME";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_MME_SGSN
 */
interface Link_MME_SGSN : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_MME_SGSN";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_MME_ServingGW
 */
interface Link_MME_ServingGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_MME_ServingGW";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_PCRF_ServingGW
 */
interface Link_PCRF_ServingGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_PCRF_ServingGW";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_PCRF_PGW
 */
interface Link_PCRF_PGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_PCRF_PGW";
   // No New Attribute Names
   //
};

 /**
 *  Definitions for MO class Link_PGW_ServingGW
 */
interface Link_PGW_ServingGW : GenericNetworkResourcesNRMDefs::Link
{
   const string CLASS = "Link_PGW_ServingGW";
   // No New Attribute Names
   //
};
```

```
        /**
         *  Definitions for MO class Link_SGSN_ServingGW
         */
       interface Link_SGSN_ServingGW : GenericNetworkResourcesNRMDefs::Link
       {
          const string CLASS = "Link_SGSN_ServingGW";
          // No New Attribute Names
          //
       };
};

        /**
         *  Definitions for MO class ExternalMMEFunction
         */
       interface ExternalMMEFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "ExternalMMEFunction";
          // Attribute Names
          //
          const string id = "id";
          const string pLMNIdList = "pLMNIdList";
          const string mMEC = "mMEC";
          const string mMEPool = "mMEPool";
       };

        /**
         *  Definitions for MO class ExternalServingGWFunction
         */
       interface ExternalServingGWFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "ExternalServingGWFunction";
          // Attribute Names
          //
          const string id = "id";
          const string pLMNIdList = "pLMNIdList";
          const string tACList = "tACList";
       };
       };

        /**
         *  Definitions for MO class QCISet
         */
       interface QCISet: GenericNetworkResourcesNRMDefs::ManagedFunction
       {
          const string CLASS = "QCISet";
          // Attribute Names
          //
          const string id = "id";
          const string qCIList = "qCIList";
       };

        /**
         *  Definitions for MO class Link_MBMSGW_ENB
         */
         interface Link_MBMSGW_ENB : GenericNetworkResourcesNRMDefs::Link
       {
          const string CLASS = "Link_MBMSGW_ENB";
          // No New Attribute Names
          //
       };

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

module genericEPCNRMAttributeTypes
{
        /**
         *  Definitions for struct PlmnIdType
         */
```

```
      struct PlmnIdType
      {
         short mcc;
         short mnc;
      };

      typedef sequence<PlmnIdType> plmnIdListType;


       /**
       *  Definitions for struct QciType
       */

      struct QciType
      {
         short qci;
         boolean resourceType;
         // True is GBR, False is Non-GBR
         short priority;
         short packetDelayBudget;
         float packetErrorLossRate;
      };

      typedef sequence<QciType> qciListType;

};
#endif // _EPCNETWORKRESOURCESNRMDEFS_IDL_
```

Annex B (normative): XML definitions

This annex contains the XML definitions for the EPC NRM IRP as it applies to Itf-N, in accordance with EPC NRM IRP IS definitions [2].

B.1 Architectural features

The overall architectural feature of EPC Network Resource Model IRP is specified in 3GPP TS 32.752 [2]. This clause specifies features that are specific to the XML definitions SS.

B.1.1 Syntax for Distinguished Names

The syntax of a Distinguished Name is defined in 3GPP TS 32.300 [6].

B.2 Mapping

B.2.1 General mapping

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

B.2.2 Information Object Class (IOC) mapping

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

B.3.2 defines the NRM-specific XML schema `epcNrm.xsd` for the EPC NRM IRP IS defined in 3GPP TS 32.752 [2].

XML schema `epcNrm.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 [3].

B.3 Solution Set definitions

B.3.1 XML definition structure

The XML definitions of this document specify the schema for configuration content.

When using the XML definitions for a configuration file transfer with the Bulk CM IRP, using either CORBA Solution Set of 3GPP TS 32.616 [3] or SOAP Solution Set of 3GPP TS 32.616 [3], the basic part of the XML file format definition is provided by 3GPP TS 32.616 [3]. The XML definitions of this document provide the schema for the configuration content to be included in such a configuration file.

When using the XML definitions with a SOAP solution set of any interface IRP that perform operations on managed objects, for example the Basic CM IRP SOAP SS of 3GPP TS 32.606 [4], the XML definitions of this document provides the schema for the configuration content operated on by the interface IRP. Such configuration content can be name of managed object and, if applicable, IOC attributes.

B.3.2 XML schema “epcNrm.xsd”

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

<!--
  3GPP TS 32.756 EPC Network Resource Model IRP
  XML schema definition
  epcNrm.xsd
-->

<schema
  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.756#epcNrm"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn="http://www.3gpp.org/ftp/specs/archive/32_series/32.626#genericNrm"
  xmlns:epc="http://www.3gpp.org/ftp/specs/archive/32_series/32.756#epcNrm"
>

  <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.626#genericNrm"/>

  <!--EPC NRM IRP IS class associated XML elements -->
  <complexType name="PLMNId">
    <sequence>
      <element name="mcc" type="short" minOccurs="0"/>
      <element name="mNc" type="short" minOccurs="0"/>
    </sequence>
  </complexType>
  <complexType name="PLMNIdList">
    <sequence>
      <element name="pLMNId" type="epc:PLMNId" minOccurs="0" />
    </sequence>
  </complexType>
  <complexType name="TACList">
    <sequence>
      <element name="tAC" type="long" minOccurs="0" maxOccurs="unbounded"/>
    </sequence>
  </complexType>
  <complexType name="QCIType">
    <sequence>
      <element name="qci" type="short" minOccurs="0"/>
      <element name="resourceType" type="boolean" minOccurs="0"/>
      <!-- True is GBR, and False is Non-GBR -->
      <element name="priority" type="short" minOccurs="0"/>
      <element name="packetDelayBudget" type="short" minOccurs="0"/>
      <element name="packetErrorLossRate" type="decimal" minOccurs="0"/>
    </sequence>
  </complexType>
  <complexType name="QCIListType">
    <sequence>
      <element name="qCIInfo" type="epc:QCIType" minOccurs="0"/>
    </sequence>
  </complexType>


  <element
    name="EPDGFunction"
    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="linkList" type="xn:linkListType" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:EPDGFunctionOptionallyContainedNrmClass"/>
                 <element ref="epc:EP_RP_EPS"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
```

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

<element
  name="MMEFunction"
  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="pLMNIdList" type="epc:PLMNIdList" minOccurs="0"/>
                <element name="mMEC" type="long" minOccurs="0"/>
                <element name="mMEPool" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:MMEFunctionOptionallyContainedNrmClass"/>
              <element ref="epc:EP_RP_EPS"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="PCRFFunction"
  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="linkList" type="xn:linkListType" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:PCRFFunctionOptionallyContainedNrmClass"/>
              <element ref="epc:EP_RP_EPS"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="PGWFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                 <element name="userLabel" type="string" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:PGWFunctionOptionallyContainedNrmClass"/>
```

```
            <element ref="epc:EP_RP_EPS"/>
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
 </complexType>
</element>

<element
 name="ServingGWFunction"
 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="pLMNIdList" type="epc:PLMNIdList" minOccurs="0"/>
        <element name="tACList" type="epc:TACList" minOccurs="0"/>
         </all>
       </complexType>
      </element>
      <choice minOccurs="0" maxOccurs="unbounded">
       <element ref="epc:ServingGWFunctionOptionallyContainedNrmClass"/>
       <element ref="epc:EP_RP_EPS"/>
       <element ref="xn:VsDataContainer"/>
      </choice>
     </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element
 name="ExternalServingGWFunction"
 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="pLMNIdList" type="epc:PLMNIdList" minOccurs="0"/>
        <element name="tACList" type="epc:TACList" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="xn:VsDataContainer"/>
     </choice>
    </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element
 name="ExternalMMEFunction"
 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="pLMNIdList" type="epc:PLMNIdList" minOccurs="0"/>
        <element name="mMEC" type="long" minOccurs="0"/>
        <element name="mMEPool" type="xn:dn" minOccurs="0"/>
```

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

<element
 name="MMEPool"
 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="mMEGI" type="long" minOccurs="0"/>
        <element name="mMEPoolMemberList" type="xn:dnList" minOccurs="0"/>
        <element name="mMEPoolArea" type="xn:dn" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="epc:MMEPoolOptionallyContainedNrmClass"/>
      <element ref="xn:VsDataContainer"/>
     </choice>
    </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element
 name="MMEPoolArea"
 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="mMEPool" type="xn:dn" minOccurs="0"/>
        <element name="tACList" type="epc:TACList" minOccurs="0"/>
        <element name="pLMNIdList" type="epc:PLMNIdList" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="epc:MMEPoolAreaOptionallyContainedNrmClass"/>
      <element ref="xn:VsDataContainer"/>
     </choice>

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

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

```
            <all>
              <element name="aEnd" type="xn:dn" minOccurs="0"/>
              <element name="linkType" type="xn:linkType" minOccurs="0"/>
              <element name="protocolName" type="string" minOccurs="0"/>
              <element name="protocolVersion" type="string" minOccurs="0"/>
              <element name="userLabel" type="string" minOccurs="0"/>
              <element name="zEnd" type="xn:dn" minOccurs="0"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="epc:Link_ENB_MMEOptionallyContainedNrmClass"/>
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
 </complexType>
</element>

<element name="Link_ENB_ServingGW"
 substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
 <complexType>
  <complexContent>
   <extension base="xn:NrmClass">
    <sequence>
     <element name="attributes" minOccurs="0">
      <complexType>
       <all>
        <element name="aEnd" type="xn:dn" minOccurs="0"/>
        <element name="linkType" type="xn:linkType" minOccurs="0"/>
        <element name="protocolName" type="string" minOccurs="0"/>
        <element name="protocolVersion" type="string" minOccurs="0"/>
        <element name="userLabel" type="string" minOccurs="0"/>
        <element name="zEnd" type="xn:dn" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="epc:Link_ENB_ServingGWOptionallyContainedNrmClass"/>
      <element ref="xn:VsDataContainer"/>
     </choice>
    </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element name="Link_EPDG_PCRF"
 substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
 <complexType>
  <complexContent>
   <extension base="xn:NrmClass">
    <sequence>
     <element name="attributes" minOccurs="0">
      <complexType>
       <all>
        <element name="aEnd" type="xn:dn" minOccurs="0"/>
        <element name="linkType" type="xn:linkType" minOccurs="0"/>
        <element name="protocolName" type="string" minOccurs="0"/>
        <element name="protocolVersion" type="string" minOccurs="0"/>
        <element name="userLabel" type="string" minOccurs="0"/>
        <element name="zEnd" type="xn:dn" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="epc:Link_EPDG_PCRFOptionallyContainedNrmClass"/>
      <element ref="xn:VsDataContainer"/>
     </choice>
    </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>
```

```
<element name="Link_EPDG_PGW"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
                <element name="linkType" type="xn:linkType" minOccurs="0"/>
                <element name="protocolName" type="string" minOccurs="0"/>
                <element name="protocolVersion" type="string" minOccurs="0"/>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="zEnd" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:Link_EPDG_PGWOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="Link_HSS_MME"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
                <element name="linkType" type="xn:linkType" minOccurs="0"/>
                <element name="protocolName" type="string" minOccurs="0"/>
                <element name="protocolVersion" type="string" minOccurs="0"/>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="zEnd" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:Link_HSS_MMEOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="Link_MME_MME"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
                <element name="linkType" type="xn:linkType" minOccurs="0"/>
                <element name="protocolName" type="string" minOccurs="0"/>
                <element name="protocolVersion" type="string" minOccurs="0"/>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="zEnd" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
```

```
            <element ref="epc:Link_MME_MMEOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="Link_MME_SGSN"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
                <element name="linkType" type="xn:linkType" minOccurs="0"/>
                <element name="protocolName" type="string" minOccurs="0"/>
                <element name="protocolVersion" type="string" minOccurs="0"/>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="zEnd" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:Link_MME_SGSNOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="Link_MME_ServingGW"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
                <element name="linkType" type="xn:linkType" minOccurs="0"/>
                <element name="protocolName" type="string" minOccurs="0"/>
                <element name="protocolVersion" type="string" minOccurs="0"/>
                <element name="userLabel" type="string" minOccurs="0"/>
                <element name="zEnd" type="xn:dn" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="epc:Link_MME_ServingGWOptionallyContainedNrmClass"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="Link_PCRF_ServingGW"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="aEnd" type="xn:dn" minOccurs="0"/>
```

```
              <element name="linkType" type="xn:linkType" minOccurs="0"/>
              <element name="protocolName" type="string" minOccurs="0"/>
              <element name="protocolVersion" type="string" minOccurs="0"/>
             <element name="userLabel" type="string" minOccurs="0"/>
              <element name="zEnd" type="xn:dn" minOccurs="0"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="epc:Link_PCRF_ServingGWOptionallyContainedNrmClass"/>
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
 </complexType>
</element>

<element name="Link_PCRF_PGW"
 substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
 <complexType>
  <complexContent>
   <extension base="xn:NrmClass">
    <sequence>
     <element name="attributes" minOccurs="0">
      <complexType>
       <all>
        <element name="aEnd" type="xn:dn" minOccurs="0"/>
        <element name="linkType" type="xn:linkType" minOccurs="0"/>
        <element name="protocolName" type="string" minOccurs="0"/>
        <element name="protocolVersion" type="string" minOccurs="0"/>
       <element name="userLabel" type="string" minOccurs="0"/>
        <element name="zEnd" type="xn:dn" minOccurs="0"/>
       </all>
      </complexType>
     </element>
     <choice minOccurs="0" maxOccurs="unbounded">
      <element ref="epc:Link_PCRF_PGWOptionallyContainedNrmClass"/>
      <element ref="xn:VsDataContainer"/>
     </choice>
    </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element name="Link_PGW_ServingGW"
 substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
 <complexType>
  <complexContent>
   <extension base="xn:NrmClass">
     <sequence>
      <element name="attributes" minOccurs="0">
       <complexType>
        <all>
         <element name="aEnd" type="xn:dn" minOccurs="0"/>
         <element name="linkType" type="xn:linkType" minOccurs="0"/>
         <element name="protocolName" type="string" minOccurs="0"/>
         <element name="protocolVersion" type="string" minOccurs="0"/>
        <element name="userLabel" type="string" minOccurs="0"/>
         <element name="zEnd" type="xn:dn" minOccurs="0"/>
        </all>
       </complexType>
      </element>
      <choice minOccurs="0" maxOccurs="unbounded">
       <element ref="epc:Link_PGW_ServingGWOptionallyContainedNrmClass"/>
       <element ref="xn:VsDataContainer"/>
      </choice>
     </sequence>
   </extension>
  </complexContent>
 </complexType>
</element>

<element name="Link_SGSN_ServingGW"
 substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
```

```
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
           <sequence>
             <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="aEnd" type="xn:dn" minOccurs="0"/>
                  <element name="linkType" type="xn:linkType" minOccurs="0"/>
                  <element name="protocolName" type="string" minOccurs="0"/>
                  <element name="protocolVersion" type="string" minOccurs="0"/>
                 <element name="userLabel" type="string" minOccurs="0"/>
                  <element name="zEnd" type="xn:dn" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:Link_SGSN_ServingGWOptionallyContainedNrmClass"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="EP_RP_EPS">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <!-- Inherited attributes from EP_RP -->
                  <element name="farEndEntity" type="xn:dn" minOccurs="0"/>
                  <element name="userLabel" type="string" minOccurs="0"/>
                  <!-- End of inherited attributes from EP_RP -->
                  <element name="farEndNeIpAddr" type="string" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:EP_RP_EPSOptionallyContainedNrmClass"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="QCISet"
    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="qCIList" type="epc:QCIListType" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:QCISetOptionallyContainedNrmClass"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>
```

```
<element name="MBMSGWFunction"
    substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                   <element name="userLabel" type="string" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:MBMSGWFunctionOptionallyContainedNrmClass"/>
                <element ref="epc:EP_RP_EPS"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="Link_MBMSGW_ENB"
    substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="aEnd" type="xn:dn" minOccurs="0"/>
                  <element name="linkType" type="xn:linkType" minOccurs="0"/>
                  <element name="protocolName" type="string" minOccurs="0"/>
                  <element name="protocolVersion" type="string" minOccurs="0"/>
                 <element name="userLabel" type="string" minOccurs="0"/>
                  <element name="zEnd" type="xn:dn" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="epc:Link_MBMSGW_ENBOptionallyContainedNrmClass"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="EPDGFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="MMEFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="PCRFFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="PGWFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="ServingGWFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="MMEPoolOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="MMEPoolAreaOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_ENB_MMEOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_ENB_ServingGWOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_EPDG_PCRFOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_EPDG_PGWOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_HSS_MMEOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_MME_MMEOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_MME_SGSNOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_MME_ServingGWOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_PCRF_ServingGWOptionallyContainedNrmClass" type="xn:NrmClass"
abstract="true"/>
  <element name="Link_PCRF_PGWOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_PGW_ServingGWOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="Link_SGSN_ServingGWOptionallyContainedNrmClass" type="xn:NrmClass"
abstract="true"/>
  <element name="EP_RP_EPSOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="QCISetOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
  <element name="MBMSGWFunctionOptionallyContainedNrmClass" type="xn:NrmClass" abstract="true"/>
```

```
  <element name="Link_MBMSGW_ENBOptionallyContainedNrmClass" 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-100280	--	--	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	--	Add IOC MBMSGWFunction	B	10.0.0	10.1.0
10-2010	SA-49	SP-100488	002	--	Changing the name of SGWFunction IOC in order not to conflict with the SGWFunction IOC in TS 32.632	A	10.0.0	10.1.0
10-2010	SA-49	SP-100489	003	--	Correct the attributes of PGWFunction and SGWFunction- Align with 32.752	F	10.0.0	10.1.0
03-2011	SA-51	SP-110095	004	-	Correct MMEFunction attributes - Align with 32.752 EPC NRM IRP Information Service	F	10.1.0	10.2.0
09-2012	SA-57	-	-	-	Automatic upgrade from previous Release version 10.2.0	-	10.2.0	11.0.0

History

Document history		
V11.0.0	October 2012	Publication