

# ETSI TS 132 645 V6.9.0 (2008-01)

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*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);  
Telecommunication management;  
Configuration Management (CM);  
UTRAN network resources Integration Reference Point (IRP):  
Bulk CM eXtensible Markup Language (XML)  
file format definition  
(3GPP TS 32.645 version 6.9.0 Release 6)**

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**Reference**

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**Keywords**

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## Foreword

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## Introduction

The present document is part of a TS-family covering the 3<sup>rd</sup> 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)
- 32.643: Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)
- 32.644: Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)
- 32.645: Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition.**

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 Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (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 single actions on single NEs of the 3G network, or as part of a complex procedure involving actions on many resources/objects in one or several NEs.

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# 1 Scope

The present document provides the NRM-specific part related to the UTRAN Network Resources IRP NRM [1] of the XML file format definition for the Bulk Configuration Management IRP IS [2].

The main part of this XML file format definition is provided by 3GPP TS 32.615 [3].

Bulk CM XML file formats are based on XML [4], XML Schema [5] [6] [7] and XML Namespace [8] standards.

This File Format Definition specification is related to 3GPP TS 32.642 V6.7.X.

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# 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 32.642: "Telecommunication management; Configuration Management (CM); UTRAN network resources Integration Reference Point (IRP): Network Resource Models (NRM)".
- [2] 3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); Information Service (IS)".
- [3] 3GPP TS 32.615: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP); eXtensible Markup Language (XML) file format definition".
- [4] W3C REC-xml-20001006: "Extensible Markup Language (XML) 1.0 (Second Edition)".
- [5] W3C REC-xmlschema-0-20010502: "XML Schema Part 0: Primer".
- [6] W3C REC-xmlschema-1-20010502: "XML Schema Part 1: Structures".
- [7] W3C REC-xmlschema-2-20010502: "XML Schema Part 2: Datatypes".
- [8] W3C REC-xml-names-19990114: "Namespaces in XML".

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# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**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 [4]; in the scope of the present document.

**XML declaration:** it specifies the version of XML being used

NOTE: See [4].

**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 [4].

**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 [4].

**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 [4].

**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 [4].

**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 [4].

**XML attribute specification:** has a name and a value

NOTE: See [4].

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

NOTE: See [4].

**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 [5], [6] and [7].

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

NOTE: See [8], 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 [5], [6] and [7].

**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 [5], [6] and [7].

## 3.2 Abbreviations

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

CM	Configuration Management
DTD	Document Type Definition
EDGE	Enhanced Data for GSM Evolution
GERAN	GSM/EDGE Radio Access Network
GSM	Global System for Mobile communication
IRP	Integration Reference Point
IS	Information Service
NRM	Network Resource Model
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network
XML	eXtensible Markup Language

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## 4 Structure and content of configuration data XML files

The overall description of the file format of configuration data XML files is provided by 3GPP TS 32.615 [3].

Annex A 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 [1].

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 32.615 [3].



## Annex A (normative): Configuration data file NRM-specific XML schema (file name "utranNrm.xsd")

The following XML schema utranNrm.xsd is the NRM-specific schema for the UTRAN Network Resources IRP NRM defined in 3GPP TS 32.642 [1]:

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
 3GPP TS 32.645 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/32.645#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  xmlns:sm=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
>
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.675#stateManagementIRP"
  />
  <!-- UTRAN Network Resources IRP NRM attribute related XML types -->
  <simpleType name="localCellId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>
  <simpleType name="cId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>
  <simpleType name="uarfcnAnyMode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>
  <simpleType name="primaryScramblingCode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="511"/>
    </restriction>
  </simpleType>
  <simpleType name="primaryCpichPower">
    <restriction base="decimal">
      <fractionDigits value="1"/>
      <minInclusive value="-10"/>
      <maxInclusive value="+50"/>
    </restriction>
  </simpleType>
```

```

<simpleType name="maximumTransmissionPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="50"/>
  </restriction>
</simpleType>

<simpleType name="primarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="secondarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="bchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="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" minOccurs="1" 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="primaryCpchPower">
  <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="timeSlotList">
  <sequence>
    <element name="timeSlot" maxOccurs="15">
      <complexType>
        <all>
          <element name="timeSlotId" minOccurs="1">
            <simpleType>
              <restriction base="integer">
                <minInclusive value="0"/>
                <maxInclusive value="14"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotDirection" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="UL"/>
                <enumeration value="DL"/>
              </restriction>
            </simpleType>
          </element>
          <element name="timeSlotStatus" minOccurs="1">
            <simpleType>
              <restriction base="string">
                <enumeration value="Active"/>
                <enumeration value="Not-Active"/>
              </restriction>
            </simpleType>
          </element>
        </all>
      </complexType>
    </element>
  </sequence>
</complexType>

<simpleType name="angleValue">
  <restriction base="short">
    <minInclusive value="0"/>
    <maxInclusive value="3600"/>
  </restriction>
</simpleType>

<simpleType name="retGroupName">
  <restriction base="string">
    <maxLength value="80"/>
  </restriction>
</simpleType>

<simpleType name="bearing">
  <restriction base="short">
    <minInclusive value="0"/>
    <maxInclusive value="360"/>
  </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" minOccurs="0"/>
        <element name="mcc" minOccurs="0"/>
        <element name="mnc" minOccurs="0"/>
        <element name="rncId" minOccurs="0"/>
      </all>
    </complexType>
  </element>
  <choice minOccurs="0" maxOccurs="unbounded">
    <element ref="un:UtranCell"/>
    <element ref="un:IubLink"/>
    <element ref="xn:VsDataContainer"/>
  </choice>
</sequence>
</extension>
</complexContent>
</complexType>
</element>

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

<element name="UtranCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element
                  name="localCellId"
                  type="un:localCellId"
                  minOccurs="0"
                />
                <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="maximumTransmissionPower"
                  type="un:maximumTransmissionPower"
                  minOccurs="0"
                />
                <element
                  name="primarySchPower"
                  type="un:primarySchPower"
                  minOccurs="0"
                />
              </all>
            </complexType>
          </element>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

```

```

    />
    <element
      name="secondarySchPower"
      type="un:secondarySchPower"
      minOccurs="0"
    />
    <element name="bchPower" type="un:bchPower" minOccurs="0"/>
    <element name="cellMode" type="un:cellMode" minOccurs="0"/>
    <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="dwPchPower"
      type="un:dwPchPower"
      minOccurs="0"
    />
    <element
      name="timeSlotList"
      type="un:timeSlotList"
      minOccurs="0"
    />
    <element name="schPower" type="un:schPower" 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="un:utranCellIubLink" minOccurs="0"/>
    <element name="retAntennaFunctionList" type="xn:dnList" minOccurs="0"/>
    <element
      name="operationalState"
      type="sm:operationalStateType"
      minOccurs="0"
    />
  </all>
</complexType>
</element>
<choice minOccurs="0" maxOccurs="unbounded">
  <element ref="un:UtranRelation"/>
  <element ref="gn:GsmRelation"/>
  <element ref="xn:VsDataContainer"/>
</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" minOccurs="0"/>
                <element name="iubLinkUtranCell" type="xn:dnList" minOccurs="0"/>
                <element name="iubLinkATMChannelTerminationPoint" minOccurs="0"/>
                <element name="iubLinkNodeBFunction" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <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" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
              </all>
            </complexType>
          </element>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

```

```

    <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="lac" type="un:lac" minOccurs="0"/>
    <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
    <element
      name="cellParameterId"
      type="un:cellParameterId"
      minOccurs="0"
    />
    <element
      name="primaryCcpchPower"
      type="un:primaryCcpchPower"
      minOccurs="0"
    />
  </all>
</complexType>
</element>
<choice minOccurs="0" maxOccurs="unbounded">
  <element ref="xn:VsDataContainer"/>
</choice>
</sequence>
</extension>
</complexContent>
</complexType>
</element>

<element
  name="ExternalUtranCell"
  substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mmc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <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="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"

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        type="un:primaryCcpchPower"
        minOccurs="0"
      />
      <element name="lac" type="un:lac" minOccurs="0"/>
      <element name="rac" type="un:rac" minOccurs="0"/>
      <element name="controllingRnc" minOccurs="0"/>
    </all>
  </complexType>
</element>
<choice minOccurs="0" maxOccurs="unbounded">
  <element ref="xn:VsDataContainer"/>
</choice>
</sequence>
</extension>
</complexContent>
</complexType>
</element>
<element
  name="AntennaFunction"
  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="retUtranCellList" type="xn:dnList" minOccurs="0"/>
                <element name="retTiltValue" type="un:angleValue" minOccurs="0"/>
                <element name="bearing" type="un:bearing" minOccurs="0"/>
                <element name="maxTiltValue" type="un:angleValue" minOccurs="0"/>
                <element name="minTiltValue" type="un:angleValue" minOccurs="0"/>
                <element name="mechanicalOffset" type="un:angleValue" minOccurs="0"/>
                <element name="retGroupName" type="un:retGroupName" minOccurs="0"/>
                <element name="height" type="integer" minOccurs="0"/>
                <element name="baseElevation" type="integer" minOccurs="0"/>
                <element name="latitude" type="decimal" minOccurs="0"/>
                <element name="longitude" type="decimal" minOccurs="0"/>
                <element name="maxAzimuthValue" type="un:angleValue" minOccurs="0"/>
                <element name="minAzimuthValue" type="un:angleValue" minOccurs="0"/>
                <element name="horizBeamwidth" type="un:angleValue" minOccurs="0"/>
                <element name="vertBeamwidth" type="un:angleValue" minOccurs="0"/>
                <element name="patternLabel" type="string" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </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" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
                <element name="controlledCellList" type="xn:dnList" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:ExternalUtranCell"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>
</schema>

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## Annex B (informative): XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

[http://www.3gpp.org/ftp/specs/archive/32\\_series/32.645/schema/32645-690-XMLSchema.zip](http://www.3gpp.org/ftp/specs/archive/32_series/32.645/schema/32645-690-XMLSchema.zip)



## Annex C (informative): Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
Jun 2002	SA_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	--	1.0.0	
Sep 2002	SA_17	SP-020462	--	--	Submitted to TSG SA #17 for Approval	--	2.0.0	5.0.0
Jun 2003	SA_20	SP-030283	0001	--	Deletion of UTRAN attribute relationType in XML Schema	F	5.0.0	5.1.0
Jun 2003	SA_20	SP-030287	0002	--	Correction of UTRAN NRM XML schema namespace URIs	F	5.0.0	5.1.0
Jun 2003	SA_20	SP-030288	0003	--	Generic NRM XML schema dependencies removal	F	5.0.0	5.1.0
Jun 2003	SA_20	SP-030285	0004	--	Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations	F	5.0.0	5.1.0
Sep 2003	SA_21	SP-030418	0005	--	Inclusion of External BSS Function in GERAN XML Schema – impacts on 32.645 (UTRAN XML Schema) - Alignment with 32.652/655	F	5.1.0	5.2.0
Oct 2003	--	--	--	--	Attached to this TS the normative XML schema electronic files corresponding to Sept 2003 TS 32.645	--	5.2.0	5.2.1
Dec 2003	SA_22	SP-030646	0006	--	Correction of the number of possible URAs from 1 to 8	F	5.2.1	5.3.0
Mar 2004	SA_23	SP-040131	0007	--	Add the capability to contain instances of VsDataContainer to some MOs - Align with the IS 32.642	F	5.3.0	5.4.0
Jun 2004	SA_24	SP-040259	0008	--	Removal of XML schema URI dependencies	F	5.4.0	5.5.0
Jun 2004	SA_24	SP-040258	0009	--	Correction of the annex related to XML schema electronic files publication	F	5.4.0	5.5.0
Jun 2004	SA_24	SP-040254	0010	--	The specification does not support all UMTS frequency bands	F	5.4.0	5.5.0
Jun 2004	SA_24	SP-040256	0011	--	Add XML definitions for support of TDD modes	B	5.5.0	6.0.0
Sep 2004	SA_25	SP-040592	0013	--	Correction of the XML code – Reinsertion of the closing tag	F	6.0.0	6.1.0
Sep 2004	SA_25	SP-040595	0014	--	Include ATM in CM UTRAN network resources IRP XML Schema definition	B	6.0.0	6.1.0
Sep 2004	SA_25	SP-040587	0015	--	Add support for Remote control of Electrical Tilting (RET) antenna to the Bulk CM XSD file	B	6.0.0	6.1.0
Dec 2004	SA_26	SP-040810	0016	--	Add operationalState to the UtranCell – Align with the IS in 32.642	F	6.1.0	6.2.0
Mar 2005	SA_27	SP-050048	0019	--	RET corrections to utranNRM.xsd	F	6.2.0	6.3.0
Mar 2005	SA_27	SP-050048	0020	--	Add missing definition of IOC ExternalRncFunction	F	6.2.0	6.3.0
Jun 2005	SA_28	SP-050297	0022	--	utranNrm Attribute Name Correction	A	6.3.0	6.4.0
Jun 2005	SA_28	SP-050297	0023	--	Corrections to XML schema definition	F	6.3.0	6.4.0
Sep 2005	SA_29	SP-050461	0024	--	Add attributes for RET antennas systems - Align with TR 32.804 & RAN specs	F	6.4.0	6.5.0
Dec 2005	SA_30	SP-050717	0025	--	Correct errors in the definitions of some parameters in XML schema	F	6.5.0	6.6.0
Mar 2006	SA_31	SP-060102	0026	--	Correct relationships for External Information Object Classes (IOCs) - Align with 32.642 Information Service (IS)	F	6.6.0	6.7.0
Sep 2006	SA_33	SP-060537	0028	--	Correct the usage of dnList type for iubLinkUtranCell & controlledCellList	F	6.7.0	6.8.0
Dec 2007	SA_38	SP-070730	0032	--	R6 CR 32.645-680 Add Missing userLabel Attribute	F	6.8.0	6.9.0

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## History

<b>Document history</b>		
V6.2.0	December 2004	Publication
V6.3.0	March 2005	Publication
V6.4.0	June 2005	Publication
V6.5.0	September 2005	Publication
V6.6.0	December 2005	Publication
V6.7.0	March 2006	Publication
V6.8.0	September 2006	Publication
V6.9.0	January 2008	Publication