Source: **SA5 (Telecom Management)**

Title: **10 Rel-4/5 CR 32.615/42/43/44/45 (Configuration Management; Bulk CM IRP / UTRAN network resources IRP: Network Resource Model/ CORBA/ CMIP/ XML SSs) : Correction of the number of possible URAs from 1 to 8**

Document for: **Decision**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	Phase	Subject	Cat	Versio	Doc-2nd-	Status-	WI
SP-030646	32.615	011	Rel-4	Correction of the number of possible URAs from 1 to 8	F	4.3.0	S5-038665	Agreed	OAM-CM
SP-030646	32.615	012	Rel-5	Correction of the number of possible URAs from 1 to 8	F	5.1.0	S5-038666	Agreed	OAM-NIM
SP-030646	32.642	015	Rel-4	Correction of the number of possible URAs from 1 to 8	F	4.3.0	S5-038686	Agreed	OAM-CM
SP-030646	32.642	016	Rel-5	Correction of the number of possible URAs from 1 to 8	A	5.2.0	S5-038687	Agreed	OAM-CM
SP-030646	32.643	005	Rel-4	Correction of the number of possible URAs from 1 to 8.	F	4.2.0	S5-038660	Agreed	OAM-CM
SP-030646	32.643	006	Rel-5	Correction of the number of possible URAs from 1 to 8.	A	5.1.0	S5-038688	Agreed	OAM-CM
SP-030646	32.644	008	Rel-4	Correction of the number of possible URAs from 1 to 8	F	4.2.0	S5-038661	Agreed	OAM-CM
SP-030646	32.644	009	Rel-5	Correction of the number of possible URAs from 1 to 8	A	5.2.0	S5-038798	Agreed	OAM-CM
SP-030646	32.645	006	Rel-5	Correction of the number of possible URAs from 1 to 8	F	5.1.0	S5-038667	Agreed	OAM-NIM
SP-030646	32.655	005	Rel-5	Correction of the number of possible URAs from 1 to 8	F	5.1.0	S5-038668	Agreed	OAM-NIM

CR-Form-v7

CHANGE REQUEST

⌘ 32.615 CR 011 ⌘rev - ⌘ Current version: 4.3.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	SA5 (robert.petersen@ericsson.com, frederic.bonneau@nortelnetworks.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	F
Release:	⌘	Rel-4

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	• The attribute ura has been changed to a list. • Evolution of the version part of XML schema namespace URI definitions of Bulk CM configuration data file base XML schema and of Generic, Core, UTRAN and GERAN NRM-specific XML schemas • Correction of references to XML schema namespace URI definitions of Bulk CM configuration data file base XML schema and of Generic, Core, UTRAN and GERAN NRM-specific XML schemas
Consequences if not approved:	⌘	32.615 would not be in line with 32.642.

Clauses affected:	⌘	4.1, 4.3, 4.4, 4.5, Annex A, Annex B, Annex C

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

Other comments: ⌘

Change in Clause 4.1

4.1 Global structure

The content of a configuration data XML file is the succession of:

- the standard XML declaration with specification of the version of XML and of the character encoding being used (see [2])
- a `bulkCmConfigDataFile` XML element; this is the root XML element of configuration data XML files

The definition of the allowed character encoding(s) is outside the scope of this document.

As defined by the following extract of XML schema `configData.xsd` (see Annex A):

```
  <element name="bulkCmConfigDataFile">
    <complexType>
      <sequence>
        <element name="fileHeader">
[…]
        </element>
        <element name="configData" maxOccurs="unbounded">
[…]
        </element>
        <element name="fileFooter">
[…]
        </element>
      </sequence>
    </complexType>
  </element>
```

the XML content of a `bulkCmConfigDataFile` XML element is the succession of:

- a `fileHeader` XML element (see subclause 4.2)
- one or several `configData` XML elements (see subclause 4.3)
- a `fileFooter` XML element (see subclause 4.2)

XML elements `fileHeader` and `fileFooter` are empty XML elements (see subclause 4.2).

The `bulkCmConfigDataFile` XML element shall also have all the XML attribute specifications that declare the XML namespaces (see [6]) used in the XML file.

The following XML namespaces are potentially used in configuration data XML files:

- the default XML namespace is associated with the configuration data files base XML schema `configData.xsd` (see Annex A)
- the XML namespace prefix `xn` is defined for the XML namespace associated with the NRM specific XML schema `genericNrm.xsd` for the Generic Network Resources IRP NRM (see Annex B)
- the XML namespace prefix `un` is defined for the XML namespace associated with the NRM specific XML schema `utranNrm.xsd` for the UTRAN Network Resources IRP NRM (see Annex B)
- the XML namespace prefix `gn` is defined for the XML namespace associated with the NRM specific XML schema `geranNrm.xsd` for the GERAN Network Resources IRP NRM (see Annex B)
- XML namespaces prefixes starting with `vs`, e.g. `vsRHO11`, are reserved for the XML namespaces associated with the vendor-specific XML schemas (see clause 4.5)

Each `configData` XML element (see subclause 4.3) carries:

- NRM instances with or without their NRM attribute values in a NRM naming tree organized structure together with `modifier` XML attribute specification (see subclause 4.4)

- possibly vendor-specific data (see subclause 4.5)

A `configData` XML element can carry an entire tree of NRM instances with their NRM attribute values and the related vendor-specific data or any subset of it.

The following is an example of a configuration data XML file, without presentation of the XML attribute specifications and XML content of `fileHeader`, `configData` and `fileFooter` XML elements (replaced by […]; see subclauses 4.2, 4.3, 4.4 and 4.5):

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
~~430~~440.zip#configData"
[…]
>
  <fileHeader […]/>
  <configData […]>
[…]
  </configData>
  <configData […]>
[…]
  </configData>
  <fileFooter […]/>
</bulkCmConfigDataFile>
```

End of Change in Clause 4.1

Change in Clause 4.3

4.3 XML element `configData`

As defined by the following extract of XML schema `configData.xsd` (see Annex A):

```
<element name="configData" maxOccurs="unbounded">
  <complexType>
    <choice>
      <element ref="xn:SubNetwork"/>
      <element ref="xn:MeContext"/>
      <element ref="xn:ManagedElement"/>
    </choice>
    <attribute name="dnPrefix" type="string" use="optional"/>
  </complexType>
</element>
```

a `configData` XML element:

- has an optional `dnPrefix` XML attribute specification; this attribute specification carries the DN Prefix information as defined in Annex C of 32.300 [7]

- and its XML content is an instance of the specific type of XML element (see below) corresponding to one of the NRM classes SubNetwork, MeContext or ManagedElement (see [8]); depending on the System Context of the IRP (see [1]) the used NRM class shall be:

  - in case of System Context A, only SubNetwork NRM class, or

  - in case of System Context B, only MeContext or ManagedElement NRM class

As defined by XML schemas `genericNrm.xsd`, `utranNrm.xsd` and `geranNrm.xsd` (see Annex B):

- to each NRM class corresponds a specific type of XML element having the following characteristics:
  - its name is the name of the NRM class
  - it has the following XML attribute specifications:
    - an `id` XML attribute specification; this attribute specification carries the attribute value part of the RDN of the NRM instance carried by the XML element, i.e. the value of the naming attribute of this NRM instance
    - an optional `modifier` XML attribute specification (see subclause 4.4)
  - and its XML content is the succession of:
    - an optional `attributes` XML element whose XML content is the succession of zero or more specific XML elements (see below) corresponding to attributes of the NRM class
    - zero or more similar specific XML elements corresponding to direct subordinate NRM classes of the NRM class to which the current XML element corresponds
- to each NRM attribute of each NRM class, except for the following NRM attributes:
  - the naming NRM attribute of each NRM class, whose value is already carried by the `id` XML attribute specification of the specific XML element corresponding to the NRM class
  - the conditional `dnPrefix` NRM attribute of `SubNetwork`, `MeContext` and `ManagedElement` NRM classes (see [8]), whose value is already carried by the `dnPrefix` XML attribute specification of the `configData` XML element

  corresponds a specific type of XML element having the following characteristics:
  - its name is constructed from the name of the NRM attribute by removing any contained dash character
  - and it has an XML content; this XML content carries the value of the NRM attribute

For example for the `SubNetwork` NRM class (see [8]), the corresponding extract of XML schema `genericNrm.xsd` (see Annex B) is the following:

```
<element name="SubNetwork">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="userDefinedNetworkType" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:SubNetwork"/>
            <element ref="xn:ManagedElement"/>
            <element ref="xn:MeContext"/>
            <element ref="xn:ManagementNode"/>
            <element ref="xn:IRPAgent"/>
            <element ref="un:ExternalUtranCell"/>
            <element ref="gn:ExternalGsmCell"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
```

```
    </complexType>
  </element>
```

supported by the following extract of XML schema `genericNrm.xsd` (see Annex B):

```
  <complexType name="NrmClassXmlType" abstract="true">
    <attribute name="id" type="string" use="required"/>
    <attribute name="modifier" use="optional">
[…]
    </attribute>
  </complexType>
```

The following is an example of a `configData` XML element in a configuration data XML file (in **bold**):

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
        <xn:userDefinedNetworkType>UMTS</xn:userDefinedNetworkType>
      </xn:attributes>
      <xn:ManagementNode id="1">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Montparnasse</xn:locationName>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
          <xn:userLabel>Paris RN1</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
          <xn:userLabel>Paris RN2</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.3

Change in Clause 4.4

4.4 XML attribute specification `modifier`

As defined by the following extract of XML schema `genericNrm.xsd` (see Annex B):

```
<attribute name="modifier" use="optional">
  <simpleType>
    <restriction base="string">
      <enumeration value="create"/>
      <enumeration value="delete"/>
      <enumeration value="update"/>
    </restriction>
  </simpleType>
</attribute>
```

the value of the optional `modifier` XML attribute specification of the specific XML elements corresponding to the classes of the NRM is one of the following: `create`, `delete`, or `update`.

The semantic carried by a `modifier` XML attribute specification applies only to the NRM instance corresponding to the containing XML element and not to any explicit or implicit subordinate NRM instances of this NRM instance.

The following rules apply for the `modifier` XML attribute specification:

- in upload XML configuration files, no `modifier` XML attribute specification should be present; on the contrary those are to be considered as meaningless and shall be ignored
- in download XML configuration files:
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `create`, then all directly or indirectly contained XML element carrying NRM instances, if any, shall also have a `modifier` XML attribute specification of value `create`
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `delete`, then all directly or indirectly contained XML element carrying NRM instances, if any, shall also have a `modifier` XML attribute specification of value `delete`
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `update`, then all directly contained XML element carrying NRM instances, if any, may also have a `modifier` XML attribute specification, this one being of either value `create`, `delete`, or `update`
  - if an XML element carrying an NRM instance has no `modifier` XML attribute specification or a `modifier` XML attribute specification of value `delete`, then it shall not directly contain an `attributes` XML element

A tree of XML elements corresponding to a tree of NRM instances with all XML elements having a `modifier` XML attribute specification of value `create` is considered to be in accordance with the following rule from Bulk CM IRP IS 32.612 [1]:

> "When part or a whole NRM subtree is to be created, in the configuration data file the IRPManager shall first action the create action of parents MO instances before actioning the create of any child MO instances contained in the NRM subtree i.e. create actions on MO instances shall be specified in recursive manner following the NRM hierarchy subtree from the highest MO instances to the lowest MO instances the IRPManager requires to be created."

In such a tree of NRM instances, the XML element carrying a given NRM instance does not accurately appear before XML elements carrying subordinate NRM instances. The latter XML elements rather appear as the last part of the XML content of the former XML element.

Nevertheless, XML parsing of such a tree of NRM instances can still enable the above Bulk CM IRP IS rule to be fully respected. Example of an XML parsing enabling such compliance is one effectively actioning the creation of each NRM

instance when having parsed the XML start-tag of the XML element carrying the NRM instance and, if any, the contained `attributes` XML element.

A tree of XML elements corresponding to a tree of NRM instances with all XML elements having a `modifier` XML attribute specification of value `delete` is considered to be in accordance with the following rule from Bulk CM IRP IS 32.612 [1]:

> "When part or whole NRM subtree is to be deleted, in the configuration data file the IRPManager shall first action delete of all associated child instances contained in the NRM subtree before actioning delete of MO parents instances i.e. delete actions on MO instances shall be specified in a recursive manner following the NRM hierarchy subtree from the lowest MO instances to the highest MO instances the IRPManager requires to be deleted."

In such a tree of NRM instances, the XML elements carrying subordinate NRM instances do not appear before the XML element carrying the parent NRM instance. The former XML elements rather appear as the XML content of the latter XML element.

Nevertheless, XML parsing of such a tree of NRM instances can still enable the above Bulk CM IRP IS rule to be fully respected. Example of an XML parsing enabling such compliance is one effectively actioning the delete of each NRM instance when parsing the XML end-tag of the XML element carrying the NRM instance.

The following are examples of legal `configData` XML element with regard to `modifier` XML attribute specification (in **bold**) in configuration data XML files:

- example 1:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="create">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
        <xn:userDefinedNetworkType>UMTS</xn:userDefinedNetworkType>
      </xn:attributes>
      <xn:ManagementNode id="1" modifier="create">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
[…]
          <xn:locationName>Montparnasse</xn:locationName>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
```

```
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 2:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 3:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="delete">
      <xn:ManagementNode id="1" modifier="delete">
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="delete">
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="delete">
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
```

```
[…]
</bulkCmConfigDataFile>
```

- example 4:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1" modifier="delete">
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="delete">
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 5:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="update">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
      </xn:attributes>
      <xn:ManagementNode id="1" modifier="update">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="delete">
        <un:RncFunction id="1" modifier="delete">
        </un:RncFunction>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
        <un:RncFunction id="2" modifier="create">
```

```
          <un:attributes>
            <un:userLabel>Paris RF2</un:userLabel>
[…]
            <un:rncId>2</un:rncId>
          </un:attributes>
        </un:RncFunction>
      </xn:ManagedElement>
      <xn:ManagedElement id="3">
        <un:RncFunction id="3" modifier="update">
          <un:attributes>
            <un:userLabel>Paris RF3</un:userLabel>
          </un:attributes>
        </un:RncFunction>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.4

Change in Clause 4.5

4.5 XML elements VsDataContainer, vsData and vsDataFormatVersion

As all XML element types corresponding to NRM classes (see subclause 4.3), the VsDataContainer XML element type corresponds to the VsDataContainer NRM class defined in 32.622 [8].

Contained in an attributes XML element, itself contained in a VsDataContainer XML element, as all XML element types corresponding to NRM attributes (see subclause 4.3), the vsData and vsDataFormatVersion XML elements corresponds to the vsData and vsDataFormatVersion NRM attributes defined in 32.622 [8].

Unlike all the other XML element types corresponding to NRM attributes, the vsData XML element has an empty XML content.

Each vendor-specific XML schema shall define one ore more vendor-specific XML elements that:

- have a name starting with vsData, e.g. vsDataRHO
- derive by extension (see [3], [4] and [5]) the vsData XML element defined in the XML schema genericNrm.xsd
- are designated as members of the substitution group (see [3], [4] and [5]) headed by the vsData XML element

Beyond the above statement, the definition of vendor-specific XML schemas is outside the scope of this document.

The XML content of those vendor-specific XML elements carry vendor-specific data.

The XML content of the vsDataFormatVersion XML element shall be the filename, without the ".xsd" file extension and without any path specification, of the vendor-specific XML schema used for the related VsDataContainer XML element.

See Annex C for an example of a vendor-specific XML schema.

The following is an example of a vendor-specific XML element (in **bold**) deriving and extending the vsData XML element in a configuration data XML file:

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

```
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
  xmlns:vsRHO11="http://www.companyNN.com/xmlschemas/NNRncHandOver.1.1"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1">
        <un:RncFunction id="1">
          <xn:VsDataContainer id="1">
            <xn:attributes>
              <xn:vsDataType>RncHandOver</xn:vsDataType>
              <xn:vsDataFormatVersion>NNRncHandOver.1.1</xn:vsDataFormatVersion>
              <vsRHO11:vsDataRHO>
                <vsRHO11:abcMin>12</vsRHO11:abcMin>
                <vsRHO11:abcMax>34</vsRHO11:abcMax>
              </vsRHO11:vsDataRHO>
            </xn:attributes>
          </xn:VsDataContainer>
        </un:RncFunction>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.5

Change in Clause Annex A

Annex A (normative): Configuration data file base XML schema (file name "configData.xsd")

The following XML schema configData.xsd is the base schema for configuration data XML files:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file base XML schema
  configData.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#configData"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
```

```
430440.zip#genericNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  />

  <!-- Configuration data file root XML element -->

  <element name="bulkCmConfigDataFile">
    <complexType>
      <sequence>
        <element name="fileHeader">
          <complexType>
            <attribute name="fileFormatVersion" type="string" use="required"/>
            <attribute name="senderName" type="string" use="optional"/>
            <attribute name="vendorName" type="string" use="optional"/>
          </complexType>
        </element>
        <element name="configData" maxOccurs="unbounded">
          <complexType>
            <choice>
              <element ref="xn:SubNetwork"/>
              <element ref="xn:MeContext"/>
              <element ref="xn:ManagedElement"/>
            </choice>
            <attribute name="dnPrefix" type="string" use="optional"/>
          </complexType>
        </element>
        <element name="fileFooter">
          <complexType>
            <attribute name="dateTime" type="dateTime" use="required"/>
          </complexType>
        </element>
      </sequence>
    </complexType>
  </element>

</schema>
```

End of Change in Annex A

Change in Clause Annex B

Annex B (normative): Configuration data file NRM specific XML schemas (file names "genericNrm.xsd", "utranNrm.xsd", and "geranNrm.xsd")

The following XML schemas are the NRM specific schemas for configuration data XML files.

The following XML schema genericNrm.xsd is the NRM specific schema for the Generic Network Resources IRP NRM defined in 32.622 [8]:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file Generic Network Resources IRP NRM XML schema
  genericNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#geranNrm"
  />

  <!-- Abstract base type for all NRM class associated XML elements -->

  <complexType name="NrmClassXmlType" abstract="true">
    <attribute name="id" type="string" use="required"/>
    <attribute name="modifier" use="optional">
      <simpleType>
        <restriction base="string">
          <enumeration value="create"/>
          <enumeration value="delete"/>
          <enumeration value="update"/>
        </restriction>
      </simpleType>
    </attribute>
  </complexType>

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

  <element name="SubNetwork">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="userDefinedNetworkType" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
```

```
            <element ref="xn:SubNetwork"/>
            <element ref="xn:ManagedElement"/>
            <element ref="xn:MeContext"/>
            <element ref="xn:ManagementNode"/>
            <element ref="xn:IRPAgent"/>
            <element ref="un:ExternalUtranCell"/>
            <element ref="gn:ExternalGsmCell"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="ManagedElement">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="managedElementType" minOccurs="0"/>
                <element name="userLabel" minOccurs="0"/>
                <element name="vendorName" minOccurs="0"/>
                <element name="userDefinedState" minOccurs="0"/>
                <element name="locationName" minOccurs="0"/>
                <element name="swVersion" minOccurs="0"/>
                <element name="managedBy" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:IRPAgent"/>
            <element ref="un:RncFunction"/>
            <element ref="un:NodeBFunction"/>
            <element ref="gn:BssFunction"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="MeContext">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:ManagedElement"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="ManagementNode">
```

```
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="vendorName" minOccurs="0"/>
                  <element name="userDefinedState" minOccurs="0"/>
                  <element name="locationName" minOccurs="0"/>
                  <element name="manages" minOccurs="0"/>
                  <element name="swVersion" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:IRPAgent"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="IRPAgent">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="systemDN" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:NotificationIRP"/>
              <element ref="xn:AlarmIRP"/>
              <element ref="xn:BasicCmIRP"/>
              <element ref="xn:BulkCmIRP"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="NotificationIRP">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="irpVersion" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
```

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

  <element name="AlarmIRP">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="irpVersion" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="BasicCmIRP">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="irpVersion" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="BulkCmIRP">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="irpVersion" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="VsDataContainer">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
```

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

  <!--
    VsDataContainer NRM class vsData attribute associated empty XML element
  -->

  <element name="vsData">
    <complexType/>
  </element>

</schema>
```

The following XML schema `utranNrm.xsd` is the NRM specific schema for the UTRAN Network Resources IRP NRM defined in 32.642 [9]:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file UTRAN Network Resources IRP NRM XML schema
  utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-~~430~~440.zip#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
~~430~~440.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-~~430~~440.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-~~430~~440.zip#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
~~430~~440.zip#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-~~430~~440.zip#geranNrm"
  />
```

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

<element name="RncFunction">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <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">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <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:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" minOccurs="0"/>
                <element name="localCellId" minOccurs="0"/>
                <element name="uarfcnUl" minOccurs="0"/>
                <element name="uarfcnDl" minOccurs="0"/>
```

```
                <element name="primaryScramblingCode" minOccurs="0"/>
                <element name="primaryCpichTxPower" minOccurs="0"/>
                <element name="maximumTransmissionPower" minOccurs="0"/>
                <element name="primarySchPower" minOccurs="0"/>
                <element name="secondarySchPower" minOccurs="0"/>
                <element name="bchPower" minOccurs="0"/>
                <element name="lac" minOccurs="0"/>
                <element name="rac" minOccurs="0"/>
                <element name="sac" minOccurs="0"/>
                <element name="uraList" minOccurs="0"/>
                <element name="utranCellIubLink" 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:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="iubLinkUtranCell" minOccurs="0"/>
                <element name="iubLinkNodeBFunction" minOccurs="0"/>
              </all>
            </complexType>
          </element>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element name="uarfcnUl" minOccurs="0"/>
                <element name="uarfcnDl" minOccurs="0"/>
                <element name="primaryScramblingCode" minOccurs="0"/>
                <element name="primaryCpichTxPower" minOccurs="0"/>
                <element name="lac" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
```

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

  <element name="ExternalUtranCell">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="cId" minOccurs="0"/>
                  <element name="mcc" minOccurs="0"/>
                  <element name="mnc" minOccurs="0"/>
                  <element name="rncId" minOccurs="0"/>
                  <element name="uarfcnUl" minOccurs="0"/>
                  <element name="uarfcnDl" minOccurs="0"/>
                  <element name="primaryScramblingCode" minOccurs="0"/>
                  <element name="primaryCpichTxPower" minOccurs="0"/>
                  <element name="lac" minOccurs="0"/>
                  <element name="rac" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

The following XML schema `geranNrm.xsd` is the NRM specific schema for the GERAN Network Resources IRP NRM defined in 32.652 [10]:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file GERAN Network Resources IRP NRM XML schema
  geranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#geranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#geranNrm"
>
```

```
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-430440.zip#utranNrm"
  />

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

  <element name="BssFunction">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="gn:BtsSiteMgr"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="BtsSiteMgr">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="latitude" minOccurs="0"/>
                  <element name="longitude" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="gn:GsmCell"/>
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element name="GsmCell">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClassXmlType">
          <sequence>
```

```
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cellIdentity" minOccurs="0"/>
                <element name="cellAllocation" minOccurs="0"/>
                <element name="ncc" minOccurs="0"/>
                <element name="bcc" minOccurs="0"/>
                <element name="lac" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rac" minOccurs="0"/>
                <element name="racc" minOccurs="0"/>
                <element name="tsc" minOccurs="0"/>
                <element name="rxLevAccessMin" minOccurs="0"/>
                <element name="msTxPwrMaxCCH" minOccurs="0"/>
                <element name="hoppingSequenceNumber" minOccurs="0"/>
                <element name="plmnPermitted" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="gn:GsmRelation"/>
            <element ref="un:UtranRelation"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="GsmRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element name="bcchFrequency" minOccurs="0"/>
                <element name="ncc" minOccurs="0"/>
                <element name="bcc" minOccurs="0"/>
                <element name="lac" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="ExternalGsmCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClassXmlType">
        <sequence>
          <element name="attributes" minOccurs="0">
```

```
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="cellIdentity" minOccurs="0"/>
                  <element name="bcchFrequency" minOccurs="0"/>
                  <element name="ncc" minOccurs="0"/>
                  <element name="bcc" minOccurs="0"/>
                  <element name="lac" minOccurs="0"/>
                  <element name="mcc" minOccurs="0"/>
                  <element name="mnc" minOccurs="0"/>
                  <element name="rac" minOccurs="0"/>
                  <element name="racc" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

End of Change in Annex B

Change in Clause Annex C

Annex C (informative): Configuration data file vendor-specific XML schema example

The following XML schema is an example of vendor-specific schema for configuration data XML files:

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

<!--
  Configuration data file vendor-specific XML schema example
  NNRncHandOver.1.1.xsd
-->

<schema
  targetNamespace="http://www.companyNN.com/xmlschemas/NNRncHandOver.1.1"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-4/32_series/32615-
430440.zip#genericNrm"
  />

  <!-- RncHandOver version 1.1 company NN vendor-specific data -->

  <element name="vsDataRHO" substitutionGroup="xn:vsData">
```

```
    <complexType>
      <complexContent>
        <extension base="xn:vsData">
          <all>
            <element name="abcMin" minOccurs="0"/>
            <element name="abcMax" minOccurs="0"/>
          </all>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

End of Change in Annex C
End of Document

Annex E (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010645	001	--	Addition of MCC and MNC attributes to GSM cell related MOCs in Bulk CM XML file format	4.0.0	4.1.0
Mar 2002	S_15	SP-020032	002	--	Alignment of XML file definitions with W3C, and modifications to allow use of commercially available XML processing tools	4.1.0	4.2.0
Jun 2003	S_20	SP-030283	004	--	Deletion of attribute relationType in XML Schema.	4.2.0	4.3.0
Jun 2003	S_20	SP-030284	005	--	Correction of Bulk CM session log file XML element "log" declaration	4.2.0	4.3.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.615 CR 012 ⌘rev - ⌘ Current version: 5.1.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	SA5 (robert.petersen@ericsson.com, frederic.bonneau@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	10/10/2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	UTRAN XML schema namespace URI is referenced by Bulk CM configuration data file base XML schema.
Summary of change:	⌘	• Evolution of the version part of XML schema namespace URI definition of Bulk CM configuration data file base XML schema • Correction of references to XML schema namespace URI definitions of Bulk CM configuration data file base XML schema and of UTRAN and GERAN NRM-specific XML schemas
Consequences if not approved:	⌘	Bulk CM configuration data file base XML schema would not reference the correct UTRAN XML schema.

Clauses affected:	⌘	4.1, 4.3A.2, 4.4, 4.5, Annex A

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘ The XML schema file "configData.xsd" reflects the changes from this CR (only).

Change in Clause 4.1

4.1 Global structure

The content of a configuration data XML file is the succession of:

- the standard XML declaration with specification of the version of XML and of the character encoding being used (see [2]);
- a `bulkCmConfigDataFile` XML element; this is the root XML element of configuration data XML files.

The definition of the allowed character encoding(s) is outside the scope of this document.

As defined by the following extract of XML schema `configData.xsd` (see Annex A):

```
  <element name="bulkCmConfigDataFile">
    <complexType>
      <sequence>
        <element name="fileHeader">
[…]
        </element>
        <element name="configData" maxOccurs="unbounded">
[…]
        </element>
        <element name="fileFooter">
[…]
        </element>
      </sequence>
    </complexType>
  </element>
```

the XML content of a `bulkCmConfigDataFile` XML element is the succession of:

- a `fileHeader` XML element (see subclause 4.2);
- one or several `configData` XML elements (see subclause 4.3);
- a `fileFooter` XML element (see subclause 4.2).

XML elements `fileHeader` and `fileFooter` are empty XML elements (see subclause 4.2).

The `bulkCmConfigDataFile` XML element shall also have all the XML attribute specifications that declare the XML namespaces (see [6]) used in the XML file.

The following XML namespaces are potentially used in configuration data XML files:

- the default XML namespace is associated with the configuration data files base XML schema `configData.xsd` (see Annex A);
- for each NRM-specific XML schema, a specific XML namespace prefix is defined for the associated XML namespace (see subclause 4.3A.1);
- XML namespaces prefixes starting with `vs`, e.g. `vsRHO11`, are reserved for the XML namespaces associated with the vendor-specific XML schemas (see clause 4.5).

Each `configData` XML element (see subclause 4.3) carries:

- NRM instances with or without their NRM attribute values in a NRM naming tree organized structure together with `modifier` XML attribute specification (see subclause 4.4);
- possibly vendor-specific data (see subclause 4.5).

A `configData` XML element can carry an entire tree of NRM instances with their NRM attribute values and the related vendor-specific data or any subset of it.

The following is an example of a configuration data XML file, without presentation of the XML attribute specifications and XML content of `fileHeader`, `configData` and `fileFooter` XML elements (replaced by […]; see subclauses 4.2, 4.3, 4.4 and 4.5):

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
[…]
>
  <fileHeader […]/>
  <configData […]>
[…]
  </configData>
  <configData […]>
[…]
  </configData>
  <fileFooter […]/>
</bulkCmConfigDataFile>
```

End of Change in Clause 4.1

Change in Clause 4.3A.2

4.3A.2 Generic mapping rules

NRM-specific XML element types are generically defined under the following mapping rules:

- to each NRM class corresponds a specific type of XML element having the following characteristics:
  - its name is the name of the NRM class;
  - it derives by extension (see [3], [4] and [5]) the `NrmClass` XML complex type defined in the XML schema `genericNrm.xsd` (see [11]);
  - it has the following XML attribute specifications, inherited from `NrmClass` XML complex type:
    - an `id` XML attribute specification; this attribute specification carries the attribute value part of the RDN of the NRM instance carried by the XML element, i.e. the value of the naming attribute of this NRM instance;
    - an optional `modifier` XML attribute specification (see subclause 4.4);
  - and its XML content is the succession of:
    - an optional `attributes` XML element whose XML content is the succession of:
      - zero or more specific XML elements (see below) corresponding to attributes of the NRM class, each occurring not more than once;
      - zero or more similar specific XML elements corresponding to direct subordinate NRM classes of the NRM class to which the current XML element corresponds;
- to each NRM attribute of each NRM class, except for the following NRM attributes:
  - the naming NRM attribute of each NRM class, whose value is already carried by the `id` XML attribute specification of the specific XML element corresponding to the NRM class;
  - the conditional `dnPrefix` NRM attribute of `SubNetwork`, `MeContext` and `ManagedElement` NRM classes (see [8]), whose value is already carried by the `dnPrefix` XML attribute specification of the `configData` XML element;

corresponds a specific type of XML element having the following characteristics:

- its name is constructed from the name of the NRM attribute by removing any contained dash character;
- and it has an XML content; this XML content carries the value of the NRM attribute.

For example for the `SubNetwork` NRM class (see [8]), the corresponding extract of XML schema `genericNrm.xsd` (see [11]) is the following:

```
<element name="SubNetwork">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="userDefinedNetworkType" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:SubNetwork"/>
            <element ref="xn:ManagedElement"/>
            <element ref="xn:MeContext"/>
            <element ref="xn:ManagementNode"/>
            <element ref="xn:IRPAgent"/>
            <element ref="xn:SubNetworkOptionallyContainedNrmClass"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>
```

supported by the following extract of XML schema `genericNrm.xsd` (see [11]):

```
  <complexType name="NrmClass">
    <attribute name="id" type="string" use="required"/>
    <attribute name="modifier" use="optional">
[…]
    </attribute>
  </complexType>
```

Exceptions to the generic mapping rules for the definition of NRM-specific XML element types are listed by the following table:

Table 3: Generic mapping rule exceptions

NRM classes / attributes	NRM 3GPP TS no.	Exception description references
vsData attribute of VsDataContainer class	32.622 [8]	subclause 4.5 of the present document and annex A of 3GPP TS 32.625 [11]

The following is an example of a `configData` XML element with regard to NRM-specific XML elements (in **bold**) in a configuration data XML file:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
~~510~~520.zip#configData"
```

```
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
        <xn:userDefinedNetworkType>UMTS</xn:userDefinedNetworkType>
      </xn:attributes>
      <xn:ManagementNode id="1">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Montparnasse</xn:locationName>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
          <xn:userLabel>Paris RN1</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
          <xn:userLabel>Paris RN2</xn:userLabel>
          <xn:vendorName>Company NN</xn:vendorName>
          <xn:userDefinedState>commercial</xn:userDefinedState>
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.3A.2

Change in Clause 4.4

4.4 XML attribute specification `modifier`

As defined by the following extract of XML schema `genericNrm.xsd` (see [11]):

```
    <attribute name="modifier" use="optional">
      <simpleType>
        <restriction base="string">
          <enumeration value="create"/>
          <enumeration value="delete"/>
          <enumeration value="update"/>
        </restriction>
      </simpleType>
    </attribute>
```

the value of the optional `modifier` XML attribute specification of the specific XML elements corresponding to the classes of the NRM is one of the following: `create`, `delete`, or `update`.

The semantic carried by a `modifier` XML attribute specification applies only to the NRM instance corresponding to the containing XML element and not to any explicit or implicit subordinate NRM instances of this NRM instance.

The following rules apply for the `modifier` XML attribute specification:

- in upload XML configuration files, no `modifier` XML attribute specification should be present; on the contrary those are to be considered as meaningless and shall be ignored;
- in download XML configuration files:
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `create`, then all directly or indirectly contained XML element carrying NRM instances, if any, shall also have a `modifier` XML attribute specification of value `create`;
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `delete`, then all directly or indirectly contained XML element carrying NRM instances, if any, shall also have a `modifier` XML attribute specification of value `delete`;
  - if an XML element carrying an NRM instance has a `modifier` XML attribute specification of value `update`, then all directly contained XML element carrying NRM instances, if any, may also have a `modifier` XML attribute specification, this one being of either value `create`, `delete`, or `update`;
  - if an XML element carrying an NRM instance has no `modifier` XML attribute specification or a `modifier` XML attribute specification of value `delete`, then it shall not directly contain an `attributes` XML element.

A tree of XML elements corresponding to a tree of NRM instances with all XML elements having a `modifier` XML attribute specification of value `create` is considered to be in accordance with the following rule from Bulk CM IRP IS 3GPP TS 32.612 [1]:

> "When part or a whole NRM subtree is to be created, in the configuration data file the IRPManager shall first action the create action of parents MO instances before actioning the create of any child MO instances contained in the NRM subtree i.e. create actions on MO instances shall be specified in recursive manner following the NRM hierarchy subtree from the highest MO instances to the lowest MO instances the IRPManager requires to be created."

In such a tree of NRM instances, the XML element carrying a given NRM instance does not accurately appear before XML elements carrying subordinate NRM instances. The latter XML elements rather appear as the last part of the XML content of the former XML element.

Nevertheless, XML parsing of such a tree of NRM instances can still enable the above Bulk CM IRP IS rule to be fully respected. Example of an XML parsing enabling such compliance is one effectively actioning the creation of each NRM instance when having parsed the XML start-tag of the XML element carrying the NRM instance and, if any, the contained `attributes` XML element.

A tree of XML elements corresponding to a tree of NRM instances with all XML elements having a `modifier` XML attribute specification of value `delete` is considered to be in accordance with the following rule from Bulk CM IRP IS 3GPP TS 32.612 [1]:

> "When part or whole NRM subtree is to be deleted, in the configuration data file the IRPManager shall first action delete of all associated child instances contained in the NRM subtree before actioning delete of MO parents instances i.e. delete actions on MO instances shall be specified in a recursive manner following the NRM hierarchy subtree from the lowest MO instances to the highest MO instances the IRPManager requires to be deleted."

In such a tree of NRM instances, the XML elements carrying subordinate NRM instances do not appear before the XML element carrying the parent NRM instance. The former XML elements rather appear as the XML content of the latter XML element.

Nevertheless, XML parsing of such a tree of NRM instances can still enable the above Bulk CM IRP IS rule to be fully respected. Example of an XML parsing enabling such compliance is one effectively actioning the delete of each NRM instance when parsing the XML end-tag of the XML element carrying the NRM instance.

The following are examples of legal `configData` XML element with regard to `modifier` XML attribute specification (in **bold**) in configuration data XML files:

- example 1:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="create">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
        <xn:userDefinedNetworkType>UMTS</xn:userDefinedNetworkType>
      </xn:attributes>
      <xn:ManagementNode id="1" modifier="create">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
[…]
          <xn:locationName>Montparnasse</xn:locationName>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 2:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
[…]
>
[…]
```

```
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Champ de Mars</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 3:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="delete">
      <xn:ManagementNode id="1" modifier="delete">
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="delete">
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="delete">
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 4:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1" modifier="delete">
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="delete">
```

```
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

- example 5:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
~~510~~520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-~~510~~520.zip#utranNrm"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1" modifier="update">
      <xn:attributes>
        <xn:userLabel>Paris SN1</xn:userLabel>
      </xn:attributes>
      <xn:ManagementNode id="1" modifier="update">
        <xn:attributes>
          <xn:userLabel>Paris MN1</xn:userLabel>
        </xn:attributes>
      </xn:ManagementNode>
      <xn:ManagedElement id="1" modifier="delete">
        <un:RncFunction id="1" modifier="delete">
        </un:RncFunction>
      </xn:ManagedElement>
      <xn:ManagedElement id="2" modifier="create">
        <xn:attributes>
          <xn:managedElementType>RNC</xn:managedElementType>
[…]
          <xn:locationName>Concorde</xn:locationName>
        </xn:attributes>
        <un:RncFunction id="2" modifier="create">
          <un:attributes>
            <un:userLabel>Paris RF2</un:userLabel>
[…]
            <un:rncId>2</un:rncId>
          </un:attributes>
        </un:RncFunction>
      </xn:ManagedElement>
      <xn:ManagedElement id="3">
        <un:RncFunction id="3" modifier="update">
          <un:attributes>
            <un:userLabel>Paris RF3</un:userLabel>
          </un:attributes>
        </un:RncFunction>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.4

Change in Clause 4.5

4.5 XML elements VsDataContainer, vsData and vsDataFormatVersion

As all XML element types corresponding to NRM classes (see subclause 4.3A.2), the VsDataContainer XML element type, explicitly declared in 3GPP TS 32.625 [11], corresponds to the VsDataContainer NRM class defined in 3GPP TS 32.622 [8].

Contained in an attributes XML element type, itself contained in a VsDataContainer XML element, as all XML element types corresponding to NRM attributes (see subclause 4.3A.2), the vsData and vsDataFormatVersion XML element types, explicitly declared in 3GPP TS 32.625 [11], correspond to the vsData and vsDataFormatVersion NRM attributes defined in 3GPP TS 32.622 [8].

As an exception to the generic mapping rules for the definition of NRM-specific XML element types (see subclause 4.3A.2), the vsData XML element type has an empty XML content.

Each vendor-specific XML schema shall declare one ore more vendor-specific XML element types that:

- have a name starting with vsData, e.g. vsDataRHO;
- derive by extension (see [3], [4] and [5]) the vsData XML element type declared by the XML schema genericNrm.xsd (see [11]);
- are designated as members of the substitution group (see [3], [4] and [5]) headed by the vsData XML element type.

Beyond the above statement, the definition of vendor-specific XML schemas is outside the scope of this document.

The XML content of those vendor-specific XML elements carry vendor-specific data.

The XML content of the vsDataFormatVersion XML element shall be the filename, without the ".xsd" file extension and without any path specification, of the vendor-specific XML schema used for the related VsDataContainer XML element.

See Annex C for an example of a vendor-specific XML schema.

The following is an example of a vendor-specific XML element (in **bold**) deriving and extending the vsData XML element in a configuration data XML file:

```
<?xml version="1.0" encoding="UTF-8"?>
<bulkCmConfigDataFile
  xmlns=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-510520.zip#utranNrm"
  xmlns:vsRHO11="http://www.companyNN.com/xmlschemas/NNRncHandOver.1.1"
[…]
>
[…]
  <configData dnPrefix="DC=a1.companyNN.com">
    <xn:SubNetwork id="1">
      <xn:ManagedElement id="1">
        <un:RncFunction id="1">
          <xn:VsDataContainer id="1">
            <xn:attributes>
              <xn:vsDataType>RncHandOver</xn:vsDataType>
              <xn:vsDataFormatVersion>NNRncHandOver.1.1</xn:vsDataFormatVersion>
              <vsRHO11:vsDataRHO>
```

```
                <vsRHO11:abcMin>12</vsRHO11:abcMin>
                <vsRHO11:abcMax>34</vsRHO11:abcMax>
              </vsRHO11:vsDataRHO>
            </xn:attributes>
          </xn:VsDataContainer>
        </un:RncFunction>
      </xn:ManagedElement>
    </xn:SubNetwork>
  </configData>
[…]
</bulkCmConfigDataFile>
```

End of Change in Clause 4.5

Change in Clause Annex A

Annex A (normative): Configuration data file base XML schema (file name "configData.xsd")

The following XML schema configData.xsd is the base schema for configuration data XML files:

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

<!--
  3GPP TS 32.615 Bulk CM IRP
  Configuration data file base XML schema
  configData.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32615-
510520.zip#configData"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  xmlns:cn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32635-510.zip#coreNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-510520.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-510520.zip#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32635-510.zip#coreNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-510520.zip#utranNrm"
  />
```

```
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-~~510~~520.zip#geranNrm"
  />

  <!-- Configuration data file root XML element -->

  <element name="bulkCmConfigDataFile">
    <complexType>
      <sequence>
        <element name="fileHeader">
          <complexType>
            <attribute name="fileFormatVersion" type="string" use="required"/>
            <attribute name="senderName" type="string" use="optional"/>
            <attribute name="vendorName" type="string" use="optional"/>
          </complexType>
        </element>
        <element name="configData" maxOccurs="unbounded">
          <complexType>
            <choice>
              <element ref="xn:SubNetwork"/>
              <element ref="xn:MeContext"/>
              <element ref="xn:ManagedElement"/>
            </choice>
            <attribute name="dnPrefix" type="string" use="optional"/>
          </complexType>
        </element>
        <element name="fileFooter">
          <complexType>
            <attribute name="dateTime" type="dateTime" use="required"/>
          </complexType>
        </element>
      </sequence>
    </complexType>
  </element>

</schema>
```

End of Change in Annex A
End of Document

Annex E (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010645	001	--	Addition of MCC and MNC attributes to GSM cell related MOCs in Bulk CM XML file format	4.0.0	4.1.0
Mar 2002	S_15	SP-020032	002	--	Alignment of XML file definitions with W3C, and modifications to allow use of commercially available XML processing tools	4.1.0	4.2.0
Jun 2002	S_16	SP-020298	003	--	New structure of specifications for the definition of Bulk CM IRP XML file formats	4.2.0	5.0.0
Sep 2002	--	--	--	--	Cosmetics by Rapporteur/MCC	5.0.0	5.0.1
Jun 2003	S_20	SP-030284	006	--	Correction of Bulk CM session log file XML element "log" declaration	5.0.1	5.1.0
Jun 2003	S_20	SP-030287	007	--	Correction of Bulk CM configuration data file XML schema namespace URIs	5.0.1	5.1.0
Jun 2003	S_20	SP-030288	008	--	Generic NRM XML schema dependencies removal	5.0.1	5.1.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.642 CR 015 ⌘rev - ⌘ Current version: 4.3.0 ⌘

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

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

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	To increase the number of URAs, so that a cell can belong from 1 to up to 8.
Summary of change:	⌘	The attribute ura has been changed to a list. The reference has been changed from RNSAP to RRC.
Consequences if not approved:	⌘	32.642 is not in line with 25.331, which means that a cell only would be able to belong to one URA, in spite of what is specified in RRC.

Clauses affected:	⌘	2 and 6.3.3.			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	32.643, 32.644 and 32.615
Other comments:	⌘				

How to create CRs using this form:

Change in Clause 2

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 23.003: "Numbering, addressing and identification".

[4] 3GPP TS 25.401: "UTRAN Overall Description"

[5] 3GPP TS 25.433: "UTRAN Iub Interface NBAP Signalling"

[6] 3GPP TS 25.423: "UTRAN Iur Interface RNSAP Signalling"

[7] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications".

[8] Void

[9] 3GPP TS 25.331: Radio Resource Control (RRC); Protocol Specification~~Void~~

[10] Void

[11] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service".

[12] Void

[13] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[14] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[15] 3GPP TS 23.002: "Network Architecture".

[16] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

[17] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP) information service".

[18] 3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP): Information service".

End of Change in Clause 2

Change in Clause 6.3.3

6.3.3 MOC UtranCell

This Managed Object Class represents a radio cell controlled by the RNC. For more information about radio cells, see 3GPP TS 23.002 [15].

It inherits from ManagedFunction.

Table 6.5: Attributes of UtranCell

Name	Qualifier	Description
utranCellId	READ-ONLY, M	An attribute whose "name+value" can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.
userLabel	READ-WRITE, M	A user-friendly (and user assigned) name of the associated object. Inherited from ManagedFunction.
cId	READ-WRITE,M	Cid is the identifier of a cell in one RNC (Ref. 3GPP TS 25.401 [4]).
localCellId	READ-WRITE,M	Local Cell id is used to uniquely identify the set of resources defined in a Node B to support a cell (as defined by a Cid Ref. 3GPP TS 25.401 [4]). It must be unique in Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the RNC to a specific set of resources in the Node B.
uarfcnUl	READ-WRITE, M	The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
uarfcnDl	READ-WRITE, M	The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
primaryScramblingCode	READ-WRITE, M	The primary DL scrambling code used by the cell (Ref. 3GPP TS 25.433 [5]).
primaryCpichPower	READ-WRITE, M	The power of the primary CPICH channel in the cell (Ref. 3GPP TS 25.433 [5]).
maximumTransmissionPower	READ-WRITE, M	The maximum transmission power of a cell, DL Power (Ref. 3GPP TS 25.433 [5]).
primarySchPower	READ-WRITE, M	The power of the primary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).
secondarySchPower	READ-WRITE, M	The power of the secondary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).
bchPower	READ-WRITE, M	The power of the broadcast channel in the cell (Ref. 3GPP TS 25.433 [5]).
lac	READ-WRITE, M	Location Area Code, LAC (Ref. 3GPP TS 23.003 [3])
rac	READ-WRITE, M	Routing Area Code, RAC (Ref. 3GPP TS 23.003 [3])
sac	READ-WRITE, M	Service Area Code, SAC (Ref. 3GPP TS 23.003 [3]).
uraList	READ-WRITE, M	A list of UTRAN Registration Area, URA (Ref. 3GPP TS 25.331~~423~~ (subclause 10.3.10) [~~6~~9]).
utranCell-IubLink	READ-ONLY, M	The value of this attribute shall be the DN of the related IubLink instance. This is a reference attribute modelling the role (of the association AssociatedWith) that this UtranCell is associated with 0-1 IubLink.

End of Change in Clause 6.3.3
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Jun 2002	S_16	SP-020303	001	--	Corrections of reference in figure 6.2 and of attribute descriptions in UtranRelation in 32.642 (UTRAN network resources IRP: NRM)	4.0.0	4.1.0
Jun 2002	S_16	SP-020304	002	--	Correction of supported IRP in system context	4.0.0	4.1.0
Sep 2002	S_17	SP-020490	003	--	UML corrections	4.1.0	4.2.0
Jun 2003	S_20	SP-030282	007	--	Add missing notifications from all managed objects (notifyComments, notifyAlarmListRebuilt)	4.2.0	4.3.0
Jun 2003	S_20	SP-030282	009	--	Correction of UML diagram vsDataContainer Containment/Naming and Association in UTRAN NRM	4.2.0	4.3.0
Jun 2003	S_20	SP-030283	011	-	Deletion of UTRAN attribute relationType	4.2.0	4.3.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.642 CR 016 ⌘rev - ⌘ Current version: 5.2.0 ⌘

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

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

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	To increase the number of URAs, so that a cell can belong from 1 to up to 8.
Summary of change:	⌘	The attribute ura has been changed to a list. The reference has been changed from RNSAP to RRC.
Consequences if not approved:	⌘	32.642 is not in line with 25.331, which means that a cell only would be able to belong to one URA, in spite of what is specified in RRC

Clauses affected:	⌘	2, 6.3.3.2 and 6.5.1.			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	32.615, 32.643, 32.644 and 32.645
Other comments:	⌘				

How to create CRs using this form:

Change in Clause 2

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 23.003: "Numbering, addressing and identification".

[4] 3GPP TS 25.401: "UTRAN Overall Description"

[5] 3GPP TS 25.433: "UTRAN Iub Interface NBAP Signalling"

[6] 3GPP TS 25.423: "UTRAN Iur Interface RNSAP Signalling"

[7] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications".

[8] 3GPP TS 32.672: "Telecommunication management; Configuration Management (CM); State Management Integration Reference Point (IRP): Information service".

~~[9] Void~~[9] 3GPP TS 25.331: Radio Resource Control (RRC); Protocol Specification

[10] Void

[11] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service".

[12] Void

[13] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[14] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[15] 3GPP TS 23.002: "Network Architecture".

[16] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

[17] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP) information service".

[18] 3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP): Information service".

End of Change in Clause 2

Change in Clause 6.3.3.2

6.3.3.2 Attributes

Table 6.5: Attributes of UtranCell

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
utranCellId	+	M	M	-
userLabel	+	M	M	M
cId	+	M	M	M
localCellId	+	M	M	M
uarfcnUl	+	M	M	M
uarfcnDl	+	M	M	M
primaryScramblingCode	+	M	M	M
primaryCpichPower	+	M	M	M
maximumTransmissionPower	+	M	M	M
primarySchPower	+	M	M	M
secondarySchPower	+	M	M	M
bchPower	+	M	M	M
lac	+	M	M	M
rac	+	M	M	M
sac	+	M	M	M
uraList	+	M	M	M
utranCell-IubLink	+	M	M	-

End of Change in Clause 6.3.3.2

Change in Clause 6.5.1

6.5.1 Definition and legal values

The table below defines the attributes that are present in several Information Object Classes (IOCs) of this TS.

Table 6.18: Attributes

Attribute Name	Definition	Legal Values
adjacentCell	It carries the DN of the UtranCelll or the ExternalUtranCell.	
bchPower	The power of the broadcast channel in the cell (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
cId	The attribute is the identifier of a cell in one RNC (Ref. 3GPP TS 25.401 [4]), 3GPP TS 25.433 [5]).	Type: Integral numeric value Range: (0…65535)
externalUtranCellId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
iubLinkId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
lac	IOCs **UtranCell** and **ExternalUtranCell**: Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]). IOC **UtranRelation**: Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]), for another UTRAN cell or the external UTRAN Cell that is broadcast in the system information in the Cell.	Type: Integral numeric value Range: (1.. 65533, 65535)
localCellId	Local Cell id is used to uniquely identify the set of resources defined in a Node B to support a cell (as defined by a Cid Ref. 3GPP TS 25.401 [4]), 3GPP TS 25.433 [5]). It must be unique in Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the RNC to a specific set of resources in the Node B.	Type: Integral numeric value Range: (0…268435455)
maximumTransmissionPower	The maximum transmission power of a cell, DL Power (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (0,..50 dBm) Steps of 0.1 dB
mcc	Mobile Country Code, MCC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).	
mnc	Mobile Network Code, MNC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).	
nodeBFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
primaryCpichPower	IOCs **UtranCell** and **ExternalUtranCell**: The power of the primary CPICH channel in the cell (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: The power of the primary CPICH channel in the cell (Ref. 3GPP TS 25.433 [5]), for another UTRAN cell or the external UTRAN Cell that is broadcast in the system information in the Cell.	Type: Numeric value Range: (-10,..,50 dBm) Steps of 0.1 dB
primarySchPower	The power of the primary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
primaryScramblingCode	IOCs **UtranCell** and **ExternalUtranCell**: The primary DL scrambling code used by the cell (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: The primary DL scrambling code used by the cell (Ref. 3GPP TS 25.433 [5]), for another UTRAN cell or the external UTRAN Cell that is broadcast in the system information in the Cell.	Type: Integral numeric value Range: (0 – 511)
rac	Routing Area Code, RAC (Ref. 3GPP TS 23.003 [3]).	Type: Integral numeric value Range: (0..255)

Attribute Name	Definition	Legal Values
rncFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
rncId	IOC **ExternalUtranCell**: Unique RNC ID for the associated RNC (Ref. 3GPP TS 23.003 [3]). IOC **RncFunction**: Unique RNC ID (Ref. 3GPP TS 23.003 [3]).	
sac	Service Area Code, SAC (Ref. 3GPP TS 23.003 [3]).	Type: Integral numeric value Range: (0.. 65535)
secondarySchPower	The power of the secondary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
uarfcnDl	IOCs **UtranCell** and **ExternalUtranCell**: The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]), for another UTRAN cell or the external UTRAN Cell that is broadcast in the system information in the Cell.	The channel number should correspond to a frequency in the downlink band, range 2110 MHz – 2170 MHz, or 1930 MHz – 1990 MHz for ITU Region 2. (Ref. 3GPP TS 25.101). Type: Integral numeric value Range: (10562 - 10838) or (9662 - 9938)
uarfcnUl	IOCs **UtranCell** and **ExternalUtranCell**: The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]) for another UTRAN cell or the external UTRAN Cell, that is broadcast in the system information in the Cell.	The channel number should correspond to a frequency in the uplink band, range 1920 MHz – 1980 MHz, or 1850 MHz - 1910 MHz for ITU Region 2. (Ref. 3GPP TS 25.101) Type: Integral numeric value Range: (9612 - 9888) or (9262 – 9538)
uraList	A list of UTRAN Registration Area, URA (Ref. 3GPP TS 25.331~~423~~ (subclause 10.3.10) ~~[6]~~[9]), that a UtranCell can belong to.	Type: A list of Integral numeric values Range: (0..65535) for each integral numeric value.
userLabel	A user-friendly (and user assigned) name of the associated object. Inherited from ManagedFunction.	
utranCellId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
utranRelationId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	

End of Change in Clause 6.5.1
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Jun 2002	S_16	SP-020303	001	--	Corrections of reference in figure 6.2 and of attribute descriptions in UtranRelation in 32.642 (UTRAN network resources IRP: NRM)	4.0.0	4.1.0
Jun 2002	S_16	SP-020304	002	--	Correction of supported IRP in system context	4.0.0	4.1.0
Sep 2002	S_17	SP-020490	003	--	UML corrections	4.1.0	4.2.0
Sep 2002	S_17	SP-020492	004	--	Add the new IRP IS methodology defined in 32.102	4.2.0	5.0.0
Sep 2002	S_17	SP-020492	005	--	Add State Management	4.2.0	5.0.0
Dec 2002	S_18	SP-020748	006	--	Inclusion of valid values and ranges for UTRAN Cell parameters	5.0.0	5.1.0
Jan 2003	--	--	--	--	Accepted all revision marks	5.1.0	5.1.1
Jun 2003	S_20	SP-030282	008	--	Include notification tables	5.1.1	5.2.0
Jun 2003	S_20	SP-030282	010	--	Correction of UML diagram vsDataContainer Containment/Naming and Association in UTRAN NRM	5.1.1	5.2.0
Jun 2003	S_20	SP-030283	012	--	Deletion of UTRAN attribute relationType	5.1.1	5.2.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.643 CR 005 ⌘ rev - ⌘ Current version: 4.2.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	The attribute ura has been changed to a list.
Consequences if not approved:	⌘	32.643 would not be in line with 32.642.

Clauses affected:	⌘	5.2.2 and Annex A.			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

Change in Clause 5.2.2

5.2.2 MOC `UtranCell`

Table 5.2: Mapping from NRM MOC `UtranCell` attributes and associations to SS equivalent MOC `UtranCell` attributes

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

End of Change in Clause 5.2.2
End of Document

Change in Clause Annex A

Annex A (normative): CORBA IDL, NRM Definitions

```
#ifndef UtranNetworkResourcesNRMDefs_idl
#define UtranNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

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



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

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


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

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

```
        const string lac= "lac";
        const string rac= "rac";
        const string sac= "sac";
        const string uraList= "uraList";

    };



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

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


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

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

    };

};


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

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


/**
     *  Definitions for MO class ExternalUtranCell
```

```
 */
interface ExternalUtranCell
{
   const string CLASS = "ExternalUtranCell";

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

};


#endif
```

End of Change in Annex A
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0
Jun 2003	S_20	SP-030283	003	--	Deletion of UTRAN attribute relationType from CORBA SS	4.1.0	4.2.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.643 CR 006 ⌘ rev - ⌘ Current version: 5.1.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of the number of possible URAs from 1 to 8.
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	The attribute ura has been changed to a list.
Consequences if not approved:	⌘	32.643 would not be in line with 32.642.

Clauses affected:	⌘	1, 5.2.2 and Annex A.

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

Other comments: ⌘

How to create CRs using this form:

Change in Clause 1

1 Scope

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

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

End of Change in Clause 1

Change in Clause 5.2.2

5.2.2 IOC UtranCell

Table 5.2: Mapping from NRM IOC UtranCell attributes and associations to SS equivalent MOC UtranCell attributes

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

End of Change in Clause 5.2.2
End of Document

Change in Clause Annex A

Annex A (normative): CORBA IDL, NRM Definitions

```
#ifndef UtranNetworkResourcesNRMDefs_idl
#define UtranNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

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



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

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


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

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

```
        const string sac= "sac";
        const string uraList= "uraList";

    };



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

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


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

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

    };

};


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

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


/**
     *  Definitions for MO class ExternalUtranCell
     */
    interface ExternalUtranCell
```

```
      {
         const string CLASS = "ExternalUtranCell";

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

      };


#endif
```

End of Change in Annex A
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0
Sep 2002	S_17	SP-020493	002	--	Upgrade to Rel-5	4.1.0	5.0.0
Jun 2003	S_20	SP-030283	004	--	Deletion of UTRAN attribute relationType from CORBA SS.	5.0.0	5.1.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.644 CR 008 ⌘rev - ⌘ Current version: 4.2.0 ⌘

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

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

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	10/10/2003
Category:	⌘	**F**
Release:	⌘	Rel-4

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	The attribute ura has been changed to a list.
Consequences if not approved:	⌘	32.644 would not be in line with 32.642.

Clauses affected:	⌘	4.2.2, 5.2.2, 5.3.16 and 6.

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘

How to create CRs using this form:

Change in Clause 4.2.2

4.2.2 Mapping of Attributes

Table 2: Mapping of Attributes

Attribute defined in 3GPP TS 32.642	Attribute defined in this CMIP SS
rncFunctionId	rncFunctionId
userLabel	userLabel (ITU-T M.3100 1995)
nodeBFunctionId	nodeBFunctionId
nodeBFunction-IubLink	nodeB2iubLink
utranCellId	utranCellId
utranCell-IubLink	utranCell2iubLink
iubLinkId	iubLinkId
iubLink-UtranCell	iubLink2UtranCell
iubLink-NodeBFunction	iubLink2NodeBFunction
mcc	mcc
mnc	mnc
rncId	rncId
cId	cId
localCellId	localCellId
uarfcnUl	uarfcnUl
uarfcnDl	uarfcnDl
primaryScramblingCode	primaryScramblingCode
primaryCpichPower	primaryCpichPower
maximumTransmissionPower	maximumTransmissionPower
primarySchPower	primarySchPower
secondarySchPower	secondarySchPower
bchPower	bchPower
lac	lac
rac	rac
sac	sac
uraList	uraList
utranRelationId	utranRelationId
adjacentCell	adjacentCell
uarfcnUl	uarfcnUl
uarfcnDl	uarfcnDl
primaryScramblingCode	primaryScramblingCode
primaryCpichPower	primaryCpichPower
externalUtranCellId	externalUtranCellId

End of Change in Clause 4.2.2

Change in Clause 5.2.2

5.2.2 utranCellHandoverPackage

utranCellHandoverPackage PACKAGE
BEHAVIOUR
utranCellHandoverPackageBehaviour;
ATTRIBUTES
cId GET-REPLACE,
localCellId GET-REPLACE,
uarfcnUl GET-REPLACE,
uarfcnDl GET-REPLACE,
primaryScramblingCode GET-REPLACE,
primaryCpichPower GET-REPLACE,
maximumTransmissionPower GET-REPLACE,
primarySchPower GET-REPLACE,
secondarySchPower GET-REPLACE,
bchPower GET-REPLACE,
lac GET-REPLACE,
rac GET-REPLACE,
sac GET-REPLACE,
uraList GET-REPLACE;
REGISTERED AS {ts32-644Package 2};

utranCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
"This package contains all new attributes defined for UTRAN handover management. These attributes are introduced in R4.";

End of Change in Clause 5.2.2

Change in Clause 5.3.16

5.3.16 uraList

ura ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-644TypeModule.UraList;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    uraListBehaviour;
REGISTERED AS {ts32-644Attribute 17};

uraListBehaviour BEHAVIOUR
  DEFINED AS
    "List of UTRAN Registration Area, URA (Ref. 3 GPP TS 25.~~423~~331)";

End of Change in Clause 5.3.16

Change in Clause 6

6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt (0) identified-organization (4) etsi (0)
        mobileDomain (0) umts-Operation-Maintenance (3) ts32-644 (644)
        informationModel (0) asn1Module (2) version1 (1)}



DEFINITIONS IMPLICIT TAGS ::=
BEGIN
--EXPORTS everything

IMPORTS
GeneralObjectId, GeneralObjectPointer, GeneralObjectPointerList
      FROM  TS32-624TypeModule {ccitt (0) identified-organization (4) etsi (0)
      mobileDomain (0) umts-Operation-Maintenance (3) ts32-624 (624)
      informationModel (0) asn1Module (2) version1 (1)}
MobileCountryCode, MobileNetworkCode, LocationAreaCode
       FROM  GSM1220TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0) gsm-
      Operation-Maintenance (3) gsm-12-20 (20) informationModel (0) asn1Module (2)
      asn1TypeModule (0)}


-- 3GPP TS 32.644 related Object Identifiers

baseNodeUMTS  OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0)
                        umts-Operation-Maintenance(3)}
ts32-644      OBJECT IDENTIFIER ::= { baseNodeUMTS ts32-644(644)}
ts32-644InfoModel     OBJECT IDENTIFIER ::= { ts32-644 informationModel(0)}

ts32-644ObjectClass   OBJECT IDENTIFIER ::= { ts32-644InfoModel managedObjectClass(3)}
ts32-644Package       OBJECT IDENTIFIER ::= { ts32-644InfoModel package(4)}
ts32-644Parameter     OBJECT IDENTIFIER ::= { ts32-644InfoModel parameter(5)}
ts32-644NameBinding   OBJECT IDENTIFIER ::= { ts32-644InfoModel nameBinding(6)}
ts32-644Attribute     OBJECT IDENTIFIER ::= { ts32-644InfoModel attribute(7)}
ts32-644Action      OBJECT IDENTIFIER ::= { ts32-644InfoModel action(9)}
ts32-644Notification  OBJECT IDENTIFIER ::= { ts32-644InfoModel notification(10)}


-- Start of 3GPP SA5 own definitions


RncId :: = INTEGER
```

```
CId ::= INTEGER
LocalCellId ::= INTEGER
UarfcnUl ::= INTEGER
UarfcnDl ::= INTEGER
PrimaryScramblingCode ::= INTEGER
PrimaryCpichPower ::= INTEGER
MaximumTransmissionPower ::= INTEGER
PrimarySchPower ::= INTEGER
SecondarySchPower ::= INTEGER
BchPower ::= INTEGER
Lac ::= INTEGER
Rac ::= INTEGER
Sac ::= INTEGER
UraList ::= SET OF INTEGER


END  -- of TS32-644TypeModule
```

End of Change in Clause 6
End of Document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2002	--	--	--	--	Cosmetics/Styles	4.1.0	4.1.1
Jun 2003	S_20	SP-030283	002	--	Removal of relationType	4.1.1	4.2.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.644 CR 009 ⌘rev - ⌘ Current version: 5.2.0 ⌘

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

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

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	21/11/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	The attribute ura has been changed to a list.
Consequences if not approved:	⌘	32.644 would not be in line with 32.642

Clauses affected:	⌘	1, 4.2.2.3, 5.2.2, 5.3.17 and 6.			
		Y	**N**		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

Change in Clause 1

1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the UTRAN Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.642 [4]. In detail:

- Clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces.
- Clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces
- Clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

This Solution Set specification is related to 3GPP TS 32.642 ~~V5.2.x~~V5.3.x.

End of Change in Clause 1

Change in Clause 4.2.2.3

4.2.2.3 Attribute Mapping of the IOC *UtranCell*

Table 4: Attribute mapping of the IOC *UtranCell*

IS Attribute	CMIP SS Attribute	Qualifier
utranCellId	utranCellId	M
userLabel	userLabel (ITU-T M.3100 [9])	M
cId	cId	M
localCellId	localCellId	M
uarfcnDl	uarfcnDl	M
uarfcnUl	uarfcnUl	M
primaryScramblingCode	primaryScramblingCode	M
primaryCpichPower	primaryCpichPower	M
maximumTransmissionPower	maximumTransmissionPower	M
primarySchPower	primarySchPower	M
secondarySchPower	secondarySchPower	M
bchPower	bchPower	M
lac	lac	M
rac	rac	M
sac	sac	M
uraList	uraList	M
utranCell-IubLink	utranCell2iubLink	M
operationalState	operationalState	O

End of Change in Clause 4.2.2.3

Change in Clause 5.2.2

5.2.2 utranCellHandoverPackage

```
utranCellHandoverPackage PACKAGE
   BEHAVIOUR
      utranCellHandoverPackageBehaviour;
   ATTRIBUTES
      cId                          GET-REPLACE,
      localCellId                  GET-REPLACE,
      uarfcnUl                     GET-REPLACE,
      uarfcnDl                     GET-REPLACE,
```

```
      primaryScramblingCode         GET-REPLACE,
      primaryCpichPower             GET-REPLACE,
      maximumTransmissionPower      GET-REPLACE,
      primarySchPower               GET-REPLACE,
      secondarySchPower             GET-REPLACE,
      bchPower                      GET-REPLACE,
      lac                           GET-REPLACE,
      rac                           GET-REPLACE,
      sac                           GET-REPLACE,
      uraList                           GET-REPLACE;
REGISTERED AS {ts32-644Package 2};

utranCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
   "This package contains all new attributes defined for UTRAN handover management.
    These attributes are introduced in R4.";
```

End of Change in Clause 5.2.2

Change in Clause 5.3.17

5.3.17 uraList

```
uraList ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.UraList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      uraListBehaviour;
REGISTERED AS {ts32-644Attribute 17};

uraListBehaviour BEHAVIOUR
DEFINED AS
   "List of UTRAN Registration Area, URA (Ref. 3 GPP TS 25.~~423~~331)";
```

End of Change in Clause 5.3.17

Change in Clause 6

6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0) umts-Operation-
Maintenance (3) ts32-644 (644) informationModel (0) asn1Module (2) version1 (1)}


DEFINITIONS IMPLICIT TAGS ::=
BEGIN

--EXPORTS everything

IMPORTS

GeneralObjectId, GeneralObjectPointer, GeneralObjectPointerList
    FROM TS32-624TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0)
    umts-Operation-Maintenance (3) ts32-624 (624) informationModel (0) asn1Module (2) version1 (1)}

MobileCountryCode, MobileNetworkCode, LocationAreaCode
    FROM GSM1220TypeModule {ccitt (0) identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Operation-Maintenance (3) gsm-12-20 (20) informationModel (0) asn1Module (2)
    asn1TypeModule (0)};


-- 3GPP TS 32.644 related Object Identifiers

baseNodeUMTS            OBJECT IDENTIFIER ::= { itu-t(0) identified-organization(4) etsi(0)
                                                mobileDomain(0) umts-Operation-Maintenance(3)}

ts32-644                OBJECT IDENTIFIER ::= { baseNodeUMTS ts32-644                   (644)}
```

```
ts32-644InfoModel       OBJECT IDENTIFIER ::= { ts32-644 informationModel              (  0)}

ts32-644ObjectClass     OBJECT IDENTIFIER ::= { ts32-644InfoModel managedObjectClass   (  3)}
ts32-644Package         OBJECT IDENTIFIER ::= { ts32-644InfoModel package              (  4)}
ts32-644Parameter       OBJECT IDENTIFIER ::= { ts32-644InfoModel parameter            (  5)}
ts32-644NameBinding     OBJECT IDENTIFIER ::= { ts32-644InfoModel nameBinding          (  6)}
ts32-644Attribute       OBJECT IDENTIFIER ::= { ts32-644InfoModel attribute            (  7)}
ts32-644Action          OBJECT IDENTIFIER ::= { ts32-644InfoModel action               (  9)}
ts32-644Notification    OBJECT IDENTIFIER ::= { ts32-644InfoModel notification         ( 10)}


-- Start of 3GPP SA5 own definitions

UarfcnUl ::= INTEGER

UarfcnDl ::= INTEGER

PrimaryScramblingCode ::= INTEGER

PrimaryCpichPower ::= INTEGER

MaximumTransmissionPower ::= INTEGER

PrimarySchPower ::= INTEGER

SecondarySchPower ::= INTEGER

BchPower ::= INTEGER

Lac ::= INTEGER

Rac ::= INTEGER

Sac ::= INTEGER

~~Ura ::= INTEGER~~
UraList ::= SET OF INTEGER


END -- of TS32-644TypeModule
```

End of Change in Clause 6
End of Document

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2002	--	--	--	--	Cosmetics/Styles	4.1.0	4.1.1
Dec 2002	S_18	SP-020749	007	--	Alignment of the CMIP SS with the Rel-5 version of the IS in 32.642	4.1.1	5.0.0
Jun 2003	S_20	SP-030283	003	--	Removal of relationType	5.0.0	5.1.0
Sep 2003	S_21	SP-030420	004	--	Correction of wrong attribute name	5.1.0	5.2.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.645 CR 006 ⌘rev - ⌘ Current version: 5.1.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	SA5 (robert.petersen@ericsson.com, frederic.bonneau@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	10/10/2003
Category:	⌘	F
Release:	⌘	Rel-5

Use one of the following categories:
- ***F*** *(correction)*
- ***A*** *(corresponds to a correction in an earlier release)*
- ***B*** *(addition of feature),*
- ***C*** *(functional modification of feature)*
- ***D*** *(editorial modification)*

Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

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

Reason for change:	⌘	To make the specification to be consistent with the IS.
Summary of change:	⌘	• The attribute ura has been changed to a list. • Evolution of the version part of XML schema namespace URI definition of UTRAN NRM-specific XML schema • Correction of references to XML schema namespace URI definitions of UTRAN and GERAN NRM-specific XML schemas
Consequences if not approved:	⌘	32.645 would not be in line with 32.642.

Clauses affected:	⌘	Annex A			
Other specs affected:	⌘	Y / N		⌘	
		N [ ]	Other core specifications		
		X [ ]	Test specifications		
		[X]	O&M Specifications		Rel-5 32.615, 32.655
Other comments:	⌘	The XML schema file "utranNrm.xsd" reflects the changes from this CR (only).			

Change in Clause Annex A

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/latest/rel-5/32_series/32645-~~510~~520.zip#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-~~510~~520.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-~~510~~520.zip#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-~~510~~520.zip#geranNrm"
  />

  <!-- UTRAN Network Resources IRP NRM attribute related XML ~~simple~~ 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="uarfcnDl">
    <union>
      <simpleType>
        <restriction base="integer">
```

```
          <minInclusive value="9662"/>
          <maxInclusive value="9938"/>
        </restriction>
      </simpleType>
      <simpleType>
        <restriction base="integer">
          <minInclusive value="10562"/>
          <maxInclusive value="10838"/>
        </restriction>
      </simpleType>
    </union>
  </simpleType>

  <simpleType name="uarfcnUl">
    <union>
      <simpleType>
        <restriction base="integer">
          <minInclusive value="9262"/>
          <maxInclusive value="9538"/>
        </restriction>
      </simpleType>
      <simpleType>
        <restriction base="integer">
          <minInclusive value="9612"/>
          <maxInclusive value="9888"/>
        </restriction>
      </simpleType>
    </union>
  </simpleType>

  <simpleType name="primaryScramblingCode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="511"/>
    </restriction>
  </simpleType>

  <simpleType name="primaryCpichTxPower">
    <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 name="ura">
          <restriction base="integer">
            <minInclusive value="0"/>
            <maxInclusive value="65535"/>
          </restriction>
        </simpleType>
      </element>
    </sequence>
  </complexType>

  <!-- 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:uarfcnDl"
                    minOccurs="0"
                  />
                  <element
                    name="uarfcnDl"
                    type="un:uarfcnUl"
                    minOccurs="0"
                  />
                  <element
                    name="primaryScramblingCode"
                    type="un:primaryScramblingCode"
                    minOccurs="0"
                  />
                  <element
                    name="primaryCpichTxPower"
                    type="un:primaryCpichTxPower"
                    minOccurs="0"
                  />
                  <element
                    name="maximumTransmissionPower"
                    type="un:maximumTransmissionPower"
                    minOccurs="0"
                  />
                  <element
                    name="primarySchPower"
                    type="un:primarySchPower"
                    minOccurs="0"
                  />
                  <element
                    name="secondarySchPower"
                    type="un:secondarySchPower"
                    minOccurs="0"
                  />
                  <element name="bchPower"
                    type="un:bchPower"
                    minOccurs="0"
                  />
                  <element name="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"
maxOccurs="8"/>
                  <element name="utranCellIubLink" 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" minOccurs="0"/>
                  <element name="iubLinkNodeBFunction" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </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="uarfcnUl"
                    type="un:uarfcnUl"
                    minOccurs="0"
                  />
                  <element
                    name="uarfcnDl"
                    type="un:uarfcnUl"
                    minOccurs="0"
                  />
                  <element
                    name="primaryScramblingCode"
                    type="un:primaryScramblingCode"
                    minOccurs="0"
                  />
                  <element
                    name="primaryCpichTxPower"
                    type="un:primaryCpichTxPower"
                    minOccurs="0"
                  />
                  <element name="lac" type="un:lac" 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="mnc" minOccurs="0"/>
                  <element name="rncId" minOccurs="0"/>
                  <element
                    name="uarfcnUl"
                    type="un:uarfcnUl"
                    minOccurs="0"
                  />
                  <element
                    name="uarfcnDl"
                    type="un:uarfcnDl"
                    minOccurs="0"
                  />
                  <element
                    name="primaryScramblingCode"
                    type="un:primaryScramblingCode"
                    minOccurs="0"
                  />
                  <element
                    name="primaryCpichTxPower"
                    type="un:primaryCpichTxPower"
                    minOccurs="0"
                  />
                  <element name="lac" type="un:lac" minOccurs="0"/>
                  <element name="rac" type="un:rac" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

End of Change in Annex A
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2002	S_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020462	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030283	001	--	Deletion of UTRAN attribute relationType in XML Schema	5.0.0	5.1.0
Jun 2003	S_20	SP-030287	002	--	Correction of UTRAN NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	003	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0
Jun 2003	S_20	SP-030285	004	--	Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations	5.0.0	5.1.0

CR-Form-v7

CHANGE REQUEST

⌘ 32.655 CR 005 ⌘rev - ⌘ Current version: 5.1.0 ⌘

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

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

Title:	⌘	Correction of the number of possible URAs from 1 to 8
Source:	⌘	SA5 (robert.petersen@ericsson.com, frederic.bonneau@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	10/10/2003
Category:	⌘	F
Release:	⌘	Rel-5

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

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change:	⌘	UTRAN XML schema namespace URI is referenced by GERAN XML schema.
Summary of change:	⌘	• Evolution of the version part of XML schema namespace URI definition of UTRAN NRM-specific XML schema • Correction of references to XML schema namespace URI definitions of UTRAN and GERAN NRM-specific XML schemas
Consequences if not approved:	⌘	UTRAN XML schema would not reference the correct GERAN XML schema.

Clauses affected:	⌘	Annex A

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

Other comments: ⌘

The XML schema file "geranNrm.xsd" reflects the changes from this CR (only).

Change in Clause Annex A

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

The following XML schema geranNrm.xsd is the NRM-specific schema for the GERAN Network Resources IRP NRM defined in 3GPP TS 32.652 [1]:

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

<!--
  3GPP TS 32.655 GERAN Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  geranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-~~510~~520.zip#geranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-~~510~~520.zip#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32655-~~510~~520.zip#geranNrm"
>

  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32625-510.zip#genericNrm"
  />
  <import
    namespace=
"http://www.3gpp.org/ftp/specs/latest/rel-5/32_series/32645-~~510~~520.zip#utranNrm"
  />

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

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

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

<element name="BtsSiteMgr">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="latitude" minOccurs="0"/>
                <element name="longitude" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="gn:GsmCell"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="GsmCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cellIdentity" minOccurs="0"/>
                <element name="cellAllocation" minOccurs="0"/>
                <element name="ncc" minOccurs="0"/>
                <element name="bcc" minOccurs="0"/>
                <element name="lac" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rac" minOccurs="0"/>
                <element name="racc" minOccurs="0"/>
                <element name="tsc" minOccurs="0"/>
                <element name="rxLevAccessMin" minOccurs="0"/>
                <element name="msTxPwrMaxCCH" minOccurs="0"/>
                <element name="hoppingSequenceNumber" minOccurs="0"/>
                <element name="plmnPermitted" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="gn:GsmRelation"/>
            <element ref="un:UtranRelation"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
```

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

  <element name="GsmRelation">
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="adjacentCell" minOccurs="0"/>
                  <element name="bcchFrequency" minOccurs="0"/>
                  <element name="ncc" minOccurs="0"/>
                  <element name="bcc" minOccurs="0"/>
                  <element name="lac" minOccurs="0"/>
                </all>
              </complexType>
            </element>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element ref="xn:VsDataContainer"/>
            </choice>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

  <element
    name="ExternalGsmCell"
    substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
  >
    <complexType>
      <complexContent>
        <extension base="xn:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="cellIdentity" minOccurs="0"/>
                  <element name="bcchFrequency" minOccurs="0"/>
                  <element name="ncc" minOccurs="0"/>
                  <element name="bcc" minOccurs="0"/>
                  <element name="lac" minOccurs="0"/>
                  <element name="mcc" minOccurs="0"/>
                  <element name="mnc" minOccurs="0"/>
                  <element name="rac" minOccurs="0"/>
                  <element name="racc" minOccurs="0"/>
                </all>
              </complexType>
            </element>
          </sequence>
        </extension>
      </complexContent>
    </complexType>
  </element>

</schema>
```

End of Change in Annex A
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2002	S_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020463	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030283	001	--	Deletion of GERAN attribute relationType in XML Schema.	5.0.0	5.1.0
Jun 2003	S_20	SP-030287	002	--	Correction of GERAN NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	003	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0