Source: **SA5 (Telecom Management)**

Title: **3 Rel-6 CR 32.622/3/5 (Configuration Management; Generic network resources IRP NRM/ CORBA/ XML SSs) : Add SetofMcc attribute in Generic NRM IOCs for NRM alignment**

Document for: **Decision**

Agenda Item: **7.5.3**

Doc-1st-	Spec	CR	Phase	Subject	Cat	Vers	Doc-2nd-	Status-	WI
SP-030648	32.622	012	Rel-6	Add SetofMcc attribute in Generic NRM IOCs for NRM alignment	B	5.1.0	S5-038796	Agreed	OAM-NIM
SP-030648	32.623	007	Rel-6	Add SetofMcc attribute in Generic NRM IOCs for NRM alignment	B	5.1.0	S5-038795	Agreed	OAM-NIM
SP-030648	32.625	003	Rel-6	Add SetofMcc attribute in Generic NRM XML definition for NRM alignment	B	5.1.2	S5-038794	Agreed	OAM-NIM

3GPP TSG-SA5 (Telecom Management) **S5-038796**
Meeting #36, Shanghai, China, 17-21 Nov 2003

CR-Form-v7

CHANGE REQUEST

⌘ **32.622** **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 ☒ Core Network ☒

Title:	⌘	Add SetofMcc attribute in Generic NRM IOCs for NRM alignment
Source:	⌘	SA5 (liyewen@chinamobile.com; llrui@bupt.edu.cn)
Work item code:	⌘	OAM-NIM
Date:	⌘	21/11/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

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:	⌘	Some operator's subnetwork may serve several countries. Therefore it maybe beneficial to have a list of Mccs on the subnetwork level.
Summary of change:	⌘	Add SetofMcc attribute in Subnetwork IOC for NRM alignment.
Consequences if not approved:	⌘	

Clauses affected:	⌘	6.1.3.7, 6.1.5			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	32.623, 32.625
Other comments:	⌘				

Change in Clause 6.1.3.7

6.1.3.7 SubNetwork

6.1.3.7.1 Definition

This information object class represents a set of managed entities as seen over the Itf-N.

There may be zero or more instances of a SubNetwork. It shall be present if either a ManagementNode or multiple ManagedElements are present (i.e. ManagementNode and multiple ManagedElement instances shall have SubNetwork as parent).

The SubNetwork instance not contained in any other instance of SubNetwork is referred to as "the root SubNetwork instance".

6.1.3.7.2 Attributes

Table 6.11: Attributes of SubNetwork

Attribute Name	Support Qualifier	Read	Write
~~SubNetworkId~~subNetworkId	M	M	-
~~DnPrefix~~dnPrefix	C	M	-
~~UserLabel~~userLabel	M	M	M
userDefinedNetworkType	M	M	-
setOfMcc	M	M	-

6.1.3.7.3 Attribute constraints

Attribute constrains for “setOfMcc”: If there may be more than one MCC value in the SubNetwork instance, the attribute setOfMcc is mandatory. Otherwise it is optional.

6.1.3.7.~~3~~4 Notifications

Table 6.12: Notifications of SubNetwork

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.7

Change in Clause 6.1.5

6.1.5 Information attribute definitions

6.1.5.1 Definitions and legal values

The table below defines the attributes that are present in several information object classes of the present document.

Table 6.16: Attributes

Attribute Name	Definition	Legal Values
dnPrefix	It carries the DN Prefix information as defined in Annex C of 32.300 [13]. It shall only be specified if the instance of the information object class supporting this attribute is a local root instance of the MIB. Otherwise the value shall carry the NULL semantics.	
managedElementId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the ManagedElement object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
managedElementType	The type of managed element. It is a multi-valued attribute with one or more elements. Thus, it may represent one ME functionality, e.g. an RNC, or a combination of more than one functionality e.g. an MSC/HLR. The actual syntax and encoding of this attribute is Solution Set specific.	RNC, NodeB, BSS, MSC, HLR, VLR, AuC, EIR, SMS-IWMSC, SMS-GMSC, GMSC, SGSN, GGSN, BG, BS, CBC, CGF, GMLC, GMSC Server, IWF, MGW, MNP-SRF, MSC Server, NPDB, R-SGW, SCF, SMLC, SRF, SSF.
irpAgentId	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.	
irpId	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.	
locationName	The physical location of this entity (e.g. an address).	
managementNodeId	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.	
meContextId	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.	
objectClass	An attribute which captures the name of the class from which the object instance is an occurrence of.	
objectInstance	An information which captures the Distinguished Name of any object.	
setOfMcc	Set of Mobile Country Code (MCC). The MCC uniquely identifies the country of domicile of the mobile subscriber. MCC is part of the IMSI (Ref. 3GPP TS 23.003). This list contains all the MCC values in subordinate object instances to this SubNetwork instance. Every unique value of MCC shall only appear once in the list.	
subNetworkId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the SubNetwork object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
swVersion	The software version of the ManagementNode or ManagedElement (this is used for determining which version of the vendor specific information is valid for the ManagementNode or ManagedElement).	
systemDN	The Distinguished Name (DN) of IRPAgent. defined in 3GPP TS.32.300.	
userDefinedNetworkType	Textual information regarding the type of network, e.g. UTRAN.	
userDefinedState	An operator defined state for operator specific usage. (See also Note below)	
userLabel	A user-friendly name of this object.	
vendorName	The name of the vendor.	
vsData	Vendor specific attributes of the type vsDataType. The attribute definitions including constraints (value ranges, data types, etc.) are specified in a vendor specific data format file.	

Attribute Name	Definition	Legal Values
vsDataContainerId	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.	
vsDataFormatVersion	Name of the data format file, including version.	
vsDataType	Type of vendor specific data contained by this instance, e.g. relation specific algorithm parameters, cell specific parameters for power control or re-selection or a timer. The type itself is also vendor specific.	

Change in Clause 6.1.5
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
Sep 2001	S_13	SP-010479	001	--	Add the notification notifyComments in all MOCs that support alarms and correct the list of allowed members of the attribute managedElementType of the MOC managedElement	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	002	--	Correction of Generic NRM Containment/Naming and Association diagram	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	003	--	Correct description of swVersion attribute	4.0.0	4.1.0
Mar 2002	S_15	SP-020020	004	--	Addition of managedElementType value for GSM Radio Access Network support	4.1.0	4.2.0
Jun 2002	S_16	SP-020299	005	--	Remove R99-inherited restriction of self-containment for MOC SubNetwork	4.2.0	4.3.0
Sep 2002	S_17	SP-020488	006	--	Upgrade to Rel-5 (Add new IS method, MOC name convention)	4.3.0	5.0.0
Jun 2003	S_20	SP-030280	008	--	Correction of Notifications for IOCs	5.0.0	5.1.0

3GPP TSG-SA5 (Telecom Management) **S5-038795**
Meeting #36, Shanghai, China, 17-21 Nov 2003

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CHANGE REQUEST

⌘ **32.623** **CR** **007** ⌘ **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 [X]

Title:	⌘	Add SetofMcc attribute in Generic NRM IOCs for NRM alignment
Source:	⌘	SA5 (liyewen@chinamobile.com; llrui@bupt.edu.cn)
Work item code:	⌘	OAM-NIM
Date:	⌘	21/11/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

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:	⌘	Some operator's subnetwork may serve several countries. Therefore it maybe beneficial to have a list of Mccs on the subnetwork level..
Summary of change:	⌘	Add SetofMcc attribute in Subnetwork IOC for NRM alignment.
Consequences if not approved:	⌘	

Clauses affected:	⌘	5.2.1, Annex B

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

Other comments:	⌘	

Change in Clause 5.2.1

5.2.1 IOC SubNetwork

Table 10: Mapping from NRM IOC SubNetwork attributes to SS equivalent MOC SubNetwork attributes

NRM Attributes of IOC SubNetwork in 3GPP TS 32.622 [4]	SS Attributes	SS Type	Qualifier
subNetworkId	subNetworkId	string	Read-Only, M
dnPrefix	dnPrefix	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
userDefinedNetworkType	userDefinedNetworkType	string	Read-Only, M
setOfMcc	setOfMcc	GenericNetworkResourcesIRPSystem::AttributeTypes::StringSet	Read-Only, M (see note1)

Note 1: If there may be more than one MCC value in the SubNetwork instance, the attribute setOfMcc is mandatory. Otherwise it is optional. The attribute can always be in the IOC, but the value could be set to “none”.

End of Change in Clause 5.2.1

Annex A (normative):
CORBA IDL, Access Protocol

```
#ifndef GenericNetworkResourcesIRPSystem_idl
#define GenericNetworkResourcesIRPSystem_idl


#pragma prefix "3gppsa5.org"


module GenericNetworkResourcesIRPSystem
{
   /**
    * The format of Distinguished Name (DN) is specified in "Name Conventions
    * for Managed Objects revision B".
    */
   typedef string DN;


   /**
    *  This module adds datatype definitions for types
    *  used in the NRM which are not basic datatypes defined
    *  already in CORBA.
    */
   module AttributeTypes
   {
      /**
       * An MO reference referres to an MO instance.
       * "otherMO" contains the  distinguished name of the referred MO.
       * A conceptual "null" reference (meaning no MO is referenced)
       * is represented as an empty string ("").
       *
       */
      struct MOReference
      {
         DN otherMO;
      };

      /**
       * MOReferenceSet represents a set of MO references.
       * This type is used to hold 0..n MO references.
       * A referred MO is not allowed to be repeated (therefore
       * it is denoted as a "Set")
       */
      typedef sequence<MOReference> MOReferenceSet;


      /**
       *  A set of strings.
       */
      typedef sequence<string> StringSet;

      /**
       *  A set of long.
       */
      typedef sequence<long> LongSet;
   };

};

#endif
```

Change in Clause Annex B

Annex B (normative):
CORBA IDL, NRM Definitions

```
#ifndef GenericNetworkResourcesNRMDefs_idl
#define GenericNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

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

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

         // Attribute Names
         //
         const string subNetworkId = "subNetworkId";
         const string dnPrefix = "dnPrefix";
         const string userLabel = "userLabel";
         const string userDefinedNetworkType = "userDefinedNetworkType";
         const string setOfMcc = "setOfMcc";
      };

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

         // Attribute Names
         //
         const string managedElementId = "managedElementId";
         const string dnPrefix = "dnPrefix";
         const string managedElementType = "managedElementType";
         const string userLabel = "userLabel";
         const string vendorName = "vendorName";
         const string userDefinedState ="userDefinedState";
         const string locationName ="locationName";

         const string managedBy = "managedBy";

         const string swVersion = "swVersion";

      };


      /**
```

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

   // Attribute Names
   //
   const string meContextId = "meContextId";
   const string dnPrefix = "dnPrefix";
};

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

   // Attribute Names
   //
   const string managementNodeId = "managementNodeId";
   const string userLabel = "userLabel";
   const string vendorName = "vendorName";
   const string userDefinedState = "userDefinedState";
   const string locationName = "locationName";
   const string manages = "manages";

   const string swVersion = "swVersion";
};


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

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


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

   // Attribute Names
   //
   const string irpAgentId = "irpAgentId";
   const string systemDN = "systemDN";
};
/**
 *  Definitions for MO class VsDataContainer
 */
interface VsDataContainer
{
   const string CLASS = "VsDataContainer";
```

```
         // Attribute Names
         //
         const string vsDataContainerId = "vsDataContainerId";
         const string vsDataType = "vsDataType";
         const string vsData = "vsData";
         const string vsDataFormatVersion = "vsDataFormatVersion";
      };

};

#endif
```

End of Change in Annex B
End of Document

Annex C (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-010479	001	--	Missing Mapping table added and attribute qualifier corrected	4.0.0	4.1.0
Dec 2001	S_14	SP-010646	002	--	Change type "integer" to "long" in the Generic Network Resources IRP: CORBA SS	4.1.0	4.2.0
Dec 2001	S_14	SP-010647	003	--	Correction of Generic NRM CORBA Solution Set IDL definitions	4.1.0	4.2.0
Sep 2002	S_17	SP-020488	004	--	Upgrade the NRM CORBA Solution Set to Rel-5	4.2.0	5.0.0
Mar 2003	S_19	SP-030141	006	--	Replace Microsoft Word “” with straight Double Quotes - to avoid CORBA IDL Compilation Errors	5.0.0	5.1.0

3GPP TSG-SA5 (Telecom Management) **S5-038794**
Meeting #36, Shanghai, China, 17-21 Nov 2003

CR-Form-v7

CHANGE REQUEST

⌘ **32.625** **CR** **003** ⌘ **rev** **-** ⌘ Current version: **5.1.2** ⌘

*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:	⌘	Add SetofMcc attribute in Generic NRM XML definition for NRM alignment
Source:	⌘	SA5 (liyewen@chinamobile.com; llrui@bupt.edu.cn)
Work item code:	⌘	OAM-NIM
Date:	⌘	21/11/2003
Category:	⌘	**B**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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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:	⌘	Some operator's subnetwork may serve several countries. Therefore it maybe beneficial to have a list of Mccs on the subnetwork level..
Summary of change:	⌘	Add SetofMcc attribute in Subnetwork XML definition for NRM alignment.
Consequences if not approved:	⌘	

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

Change in Annex A

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

The following XML schema genericNrm.xsd is the NRM-specific schema for the Generic Network Resources IRP NRM defined in 3GPP TS 32.622 [1]:

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

<!--
  3GPP TS 32.625 Generic Network Resources IRP
  Bulk CM Configuration data file NRM-specific XML schema
  genericNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/latest/rel-6/32_series/32625-600.zip#genericNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/latest/rel-6/32_series/32625-600.zip#genericNrm"
>

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

  <complexType name="NrmClass">
    <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:NrmClass">
          <sequence>
            <element name="attributes" minOccurs="0">
              <complexType>
                <all>
                  <element name="userLabel" minOccurs="0"/>
                  <element name="userDefinedNetworkType" minOccurs="0"/>
                  <element name="setOfMcc" 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>

<element name="ManagedElement">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <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="xn:ManagedElementOptionallyContainedNrmClass"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="MeContext">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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:NrmClass">
        <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>

<!--
  Abstract head XML element for all XML elements associated to further
  NRM classes optionally contained under SubNetwork NRM class
-->

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

<!--
  Abstract head XML element for all XML elements associated to further
  NRM classes optionally contained under ManagedElement NRM class
-->

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

</schema>
```

End of Change in Annex A
End of Document

Annex C (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-020460	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030287	001	--	Correction of Generic NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	002	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0
Sep 2003	--	--	--	--	Editorials & Cosmetics	5.1.0	5.1.1
Oct 2003	--	--	--	--	Attached to this TS the normative XML schema electronic files corresponding to Sept 2003 TS 32.625	5.1.1	5.1.2