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Technical Specification

Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Configuration Management (CM);
Basic CM Integration Reference Point (IRP):
SOAP Solution Set (SS)
(3GPP TS 32.607 version 8.0.0 Release 8)

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Contents

Foreword

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Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project: Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

32.601: Configuration Management (CM); Basic CM Integration Reference Point (IRP); Requirements

32.602: Configuration Management (CM); Basic CM Integration Reference Point (IRP); Information Service (IS)

32.603: Configuration Management (CM); Basic CM Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)

32.607: Configuration Management (CM); Basic CM Integration Reference Point (IRP); SOAP Solution Set (SS)

Configuration Management (CM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. CM actions have the objective to control and monitor the actual configuration on the Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (OSs) or NEs.

CM actions may be requested as part of an implementation programme (e.g. additions and deletions), as part of an optimisation programme (e.g. modifications), and to maintain the overall Quality of Service (QoS). The CM actions are initiated either as single actions on single NEs of the 3G network, or as part of a complex procedure involving actions on many resources/objects in one or several NEs.

1 Scope

The purpose of this Basic CM IRP: SOAP Solution Set is to define the mapping of the Basic CM IRP: IS (3GPP TS 32.602 [4]) to the protocol specific details necessary for implementation of this IRP in a SOAP/WSDL environment.

The present document defines NRM independent data types and methods.

This Solution Set specification is related to 3G TS 32.602 V8.0.X.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".

[2] 3GPP TS 32.102: "Telecommunication management; Architecture".

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

[4] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP) Information Service (IS)".

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

[6] 3GPP TS 32.172: "Telecommunication management; Subscription Management (SuM) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service"

[7] 3GPP TS 32.311: "Telecommunication management; Generic Integration Reference Point (IRP) management; Requirement".

[8] 3GPP TS 32.317: "Telecommunication management; Generic Integration Reference Point (IRP) management; SOAP solution set".

[9] 3GPP TS 32.667: "Telecommunication management; Configuration Management (CM); Kernel CM Integration Reference Point (IRP): SOAP solution set".

[10] W3C SOAP 1.1 specification (http://www.w3.org/TR/2000/NOTE-SOAP-20000508/)

[11] W3C WSDL 1.1 specification (http://www.w3.org/TR/2001/NOTE-wsdl-20010315)

[12] W3C XPath 1.0 specification (http://www.w3.org/TR/1999/REC-xpath-19991116)

[13] WS-I Basic Profile Version 1.1 (http://www.ws-i.org/Profiles/BasicProfile-1.1-2004-08-24.html)

[14] W3C SOAP 1.2 specification (http://www.w3.org/TR/soap12-part1/)

3 Definitions and abbreviations

3.1 Definitions

For terms and definitions refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.600 [3] and 3GPP TS 32.602 [4].

3.2 Abbreviations

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

DN	Distinguished Name
IS	Information Service
IRP	Integration Reference Point
MO	Managed Object
MOC	Managed Object Class
NRM	Network Resource Model
OMG	Object Management Group
SS	Solution Set
WSDL	Web Service Description Language
WS-I	Web Services Interoperability Organization

4 IRP document version number string

The IRP document version number (sometimes called "IRPVersion" or "SS version number") string is used to identify this specification. The string is derived using a rule described in 3GPP TS 32.311 [7].

This string (or sequence of strings, if more than one version is supported) is returned in getBasicCmIRPVersion method.

5 Architectural features

5.1 General

The overall architectural feature of Basic Configuration Management IRP is specified in 3GPP TS 32.602 [4]. This clause specifies features that are specific to the SOAP SS.

The SOAP 1.1 specification [10] and WSDL 1.1 specification [11] are supported.

The SOAP 1.2 specification [14] is supported optionally.

This specification uses "document" style in the WSDL description.

This specification uses "literal" encoding style in the WSDL description.

This specification uses a number of namespace prefixes throughout that are listed in Table 5.1.

Table 5.1: Prefixes and Namespaces used in this specification

Prefix	Namespace
http	http://schemas.xmlsoap.org/wsdl/http/
soap	http://schemas.xmlsoap.org/wsdl/soap/
SOAP-ENV	http://schemas.xmlsoap.org/soap/envelope/
SOAP-ENC or soapenc	http://schemas.xmlsoap.org/soap/encoding/
xs or xsd	http://www.w3.org/2001/XMLSchema
xsi	http://www.w3.org/2001/XMLSchema-instance
basicCMIRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32607/schema/32607-800/BasicCMIRPSystem
basicCMIRPData	http://www.3gpp.org/ftp/Specs/archive/32_series/32607/schema/32607-800/BasicCMIRPData
genericIRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32317/schema/32317-800/GenericIRPSystem

The WSDL structure is like Figure 5.1:

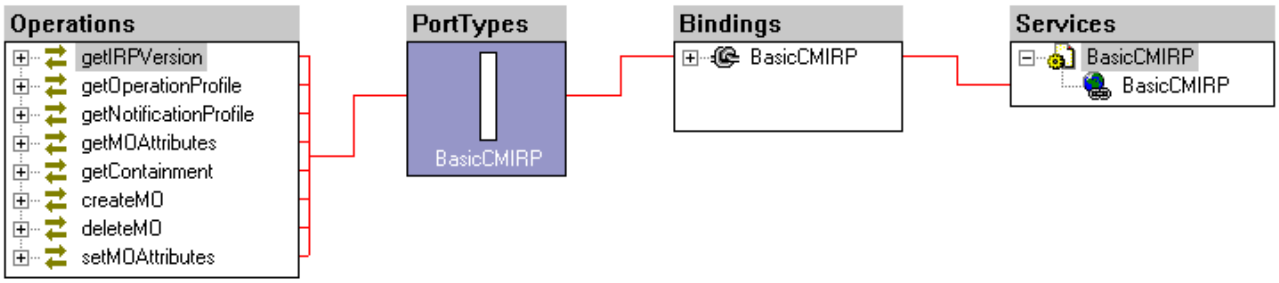

Figure 5.1: BasicCM IRP SOAP Solution Set WSDL structure

5.2 Filter language

The filter language used in the SS is the XPath Language (see W3C XPath 1.0 specification [12]). IRPAgents may throw a FilterComplexityLimit fault when a given filter is too complex.

5.3 Syntax for Distinguished Names and Versions

The format of a Distinguished Name is defined in 3GPP TS 32.300 [5].

The version of this IRP is represented as a string (see also clause 4).

6 Mapping

6.1 General mappings

The IS parameter name managedObjectInstance is mapped into DN.

Attributes modelling associations as defined in the NRM (here also called "reference attributes") are in this SS mapped to attributes. The names of the reference attributes in the NRM are mapped to the corresponding attribute names in the MOC. When the cardinality for an association is 0..1 or 1..1 the datatype for the reference attribute is defined as a MOReference. The value of an MO reference contains the distinguished name of the associated MO. When the cardinality for an association allows more than one referred MO, the reference attribute will be of type MOReferenceSet, which contains a sequence of MO references.

If a reference attribute is changed, an AttributeValueChange notification (see 3GPP TS 32.667 [9]) is emitted.

6.2 Operation mapping

The Basic CM IRP: IS (see 3GPP TS 32.602 [4]) defines semantics of operation visible across the Basic Configuration Management IRP. Table 6.2 indicates mapping of these operations to their equivalents defined in this SS.

Table 6.2: Mapping from IS Operation to SS equivalents

IS Operation (3GPP TS 32.602 [4])	SS Operation	Qualifier
getMoAttributes	getMOAttributes	M
getContainment	getContainment	O
cancelOperation (see note 1)	N/A	N/A
createMO	createMO	O
deleteMO	deleteMO	O
setMOAttributes	setMOAttributes	O
getIRPVersion (see note 2)	getIRPVersion	M
getOperationProfile (see note 2)	getOperationProfile	O
getNotificationProfile (see note 2)	getNotificationProfile	O
NOTE 1: This operation is NOT mapped because it"s useful for one-request-and-multiple-responses operations, which are not used in this Solution Set. NOTE 2: This operation is of IOC ManagedGenericIRP specified in [10]. The IOC BasicCmIRP of [4] inherits from it.		

6.3 Operation parameter mapping

The Basic CM IRP: IS (see 3GPP TS 32.602 [4]) defines semantics of parameters carried in operations across the Basic Configuration Management IRP. The following tables show the mapping of these parameters, as per operation, to their equivalents defined in the present document.

6.3.1 Operation `getMoAttributes`

6.3.1.1 Input parameters

Mapping from IS getMoAttributes input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
invokeIdentifierIn	string invokeIdentifierIn	M
baseObjectInstance, scope, filter, attributeListIn	string queryXpathExp	M

Here is the XML schema fragment of the getMOAttributes request:

```
<!-- getMOAttributes Request -->
  <element name="getMOAttributes">
      <complexType>
          <sequence>
          <element name="invokeIdentifierIn" type="string"/>
          <element name="queryXpathExp" type="string"/>

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

6.3.1.2 Output parameters

Mapping from IS getMoAttributes output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
invokeIdentifierOut	string invokeIdentifierOut	M
managedObjectClass, managedObjectInstance, attributeListOut	basicCMIRPData:MOSequenceType moiListOut	M
status	basicCMIRPData:getMOAttributesFault	M

The specific 'attributeListOut' definition depends on the corresponding NRM XML definition.

Here is the XML schema fragment of the getMOAttributes response:

```
<!-- getMoAttributes Response -->
  <element name="getMoAttributesResponse">
      <complexType>
          <sequence>
              <element name="moiListOut" type="basicCMIRPData:MOSequenceType"/>
              <element name="invokeIdentifierOut" type="string"/>

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

6.3.1.3 Fault definition

```
<!-- getMoAttributes Fault -->
  <element name="getMOAttributesFault">
      <complexType>
          <choice>
              <element name="getMOAttributesFault" type="string"/>
              <element name="resourceLimitationFault" type="string"/>
              <element name="operationCancelledFault" type="string"/>
              <element name="complexityLimitationFault" type="string"/>
              <element ref="basicCMIRPData:InvalidParameterFault"/>
          </choice>
      </complexType>
  </element>
```

6.3.2 Operation `getContainment`

6.3.2.1 Input parameters

Mapping from IS getContainment input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
invokeIdentifierIn	string invokeIdentifierIn	M
baseObjectInstance, scope	string queryXpathExp	M

Here is the XML schema fragment of the getContainment request:

```
<!-- getContainment Request -->
  <element name="getContainment">
      <complexType>
          <sequence>
              <element name="invokeIdentifierIn" type="string"/>
              <element name="queryXpathExp" type="string"/>
          </sequence>
      </complexType>
  </element>
```

6.3.2.2 Output parameters

Mapping from IS getContainment output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
invokeIdentifierOut	string invokeIdentifierOut	M
containment	string topContainerLoc	M
status	basicCMIRPData:getContainmentFault	M

Here is the XML schema fragment of the getContainment response:

```
<!-- getContainment Response -->
  <element name="getContainmentResponse">
      <complexType>
          <sequence>
              <element name="invokeIdentifierOut" type="string"/>
              <element name="topContainerLoc" type="string"/>
              <!--each element contains only id attribute and other MO it contains -->
              <any minOccurs="0" maxOccurs="unbounded"/>
          </sequence>
      </complexType>
  </element>
```

6.3.2.3 Fault definition

```
  <!-- getContainment Fault -->
      <element name="getContainmentFault">
          <complexType>
              <choice>
                  <element name="getContainmentFault" type="string"/>
                  <element name="resourceLimitationFault" type="string"/>
                  <element name="operationCancelledFault" type="string"/>
                  <element name="complexityLimitationFault" type="string"/>
                  <element ref="basicCMIRPData:OperationNotSupportedFault"/>
                  <element ref="basicCMIRPData:InvalidParameterFault"/>
              </choice>
          </complexType>
      </element>
```

6.3.3 Operation `createMO`

6.3.3.1 Input parameters

Mapping from IS createMO input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
managedObjectClass, managedObjectInstance	string mOIElementLoc	M
referenceObjectInstance	string referenceObjectInstance	O
attributeListIn	basicCMIRPData:AnyMOType mO	M

The specific 'attributeListIn' definition depends on the corresponding NRM XML definition.
Here is the XML schema fragment of the createMO request:

```
<!-- createMO Request -->
  <element name="createMO">
      <complexType>
          <sequence>
              <element name="mOIElementLoc" type="string"/>
              <element name="referenceObjectInstance" type="string"/>
              <element name="mO" type="basicCMIRPData:AnyMOType"/>
          </sequence>
      </complexType>
  </element>
```

6.3.3.2 Output parameters

Mapping from IS createMO output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
attributeListOut	basicCMIRPData:AnyMOType mO	M
status	basicCMIRPData:createMOFault	M

The specific 'attributeListOut' definition depends on the corresponding NRM XML definition.
Here is the XML schema fragment of the createMO response:

```
<!-- createMO Response -->
  <element name="createMOResponse">
      <complexType>
          <sequence>
              <element name="mO" type="basicCMIRPData:AnyMOType"/>
          </sequence>
      </complexType>
  </element>
```

6.3.3.3 Fault definition

```
<!-- createMO Fault -->
  <element name="createMOFault">
      <complexType>
          <choice>
              <element name="createMOFault" type="string"/>
              <element name="objectClassSpecificationMissmatchedFault" type="string"/>
              <element name="InvalidObjectInstanceFault" type="string"/>
              <element name="createNotAllowedFault" type="string"/>
              <element name="noSuchObjectClassFault" type="string"/>
              <element name="classInstanceConflictFault" type="string"/>
              <element name="noSuchAttributeFault" type="string"/>
              <element name="invalidAttributeValueFault" type="string"/>
              <element name="missingAttributeValueFault" type="string"/>
              <element name="parentObjectDoesNotExistFault" type="string"/>
              <element ref="basicCMIRPData:OperationNotSupportedFault"/>
              <element ref="basicCMIRPData:InvalidParameterFault"/>
          </choice>
      </complexType>
  </element>
```

6.3.4 Operation deleteMO

6.3.4.1 Input parameters

Mapping from IS deleteMO input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
baseObjectInstance, scope, filter	string queryXpathExp	M

Here is the XML schema fragment of the deleteMO request:

```
<!-- deleteMO Request -->
  <element name="deleteMO">
      <complexType>
          <sequence>
              <element name="queryXpathExp" type="string"/>
          </sequence>
      </complexType>
  </element>
```

6.3.4.2 Output parameters

Mapping from IS deleteMO output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
deletionList	basicCMIRPData:MOSequenceTypedeletionList	M
status	basicCMIRPData:deleteMOFault	M

Here is the XML schema fragment of the deleteMO response:

```
<!-- deleteMO Response -->
      <element name="deleteMOResponse">
          <complexType>
              <sequence>
                  <element name="deletionList" type="basicCMIRPData:MOSequenceType">
                  </element>

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

6.3.4.3 Fault definition

```
<!-- deleteMO Fault -->
  <element name="deleteMOFault">
      <complexType>
          <choice>
              <element name="deleteMOFault" type="string"/>
              <element name="invalidObjectInstanceFault" type="string"/>
              <element name="deleteNotAllowedFault" type="string"/>
              <element name="resourceLimitationFault" type="string"/>
              <element name="complexityLimitationFault" type="string"/>
              <element ref="basicCMIRPData:OperationNotSupportedFault"/>
              <element ref="basicCMIRPData:InvalidParameterFault"/>
          </choice>
      </complexType>
  </element>
```

6.3.5 Operation `setMOAttributes`

6.3.5.1 Input parameters

Mapping from IS setMOAttributes input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
baseObjectInstance, scope, filter, modificationList	stringqueryXpathExp	M
modificationList	basicCMIRPData:AttributeModificationSetType modificationList	M

Here is the XML schema fragment of the setMOAttributes request:

```
<!-- setMOAttributes Request -->
  <element name="setMOAttributes">
      <complexType>
          <sequence>
              <element name="queryXpathExp" type="string"/>
              <element name="modificationList"
              type="basicCMIRPData:AttributeModificationSetType"/>
          </sequence>
      </complexType>
  </element>

<complexType name='AttributeModificationSetType'>
          <sequence>
            <element name="AttributeModification" maxOccurs="unbounded">
              <complexType>
                  <sequence>
                      <any/>
                      <element name="operator" type='basicCMIRPData:ModifyOperatorType'/>
                  </sequence>
              </complexType>
          </element>
          </sequence>
      </complexType>

<simpleType name="ModifyOperatorType">
      <restriction base="string">
          <enumeration value="REPLACE"/>
          <enumeration value="ADDValues"/>
          <enumeration value="REMOVEValues"/>
          <enumeration value="SETToDefault"/>
      </restriction>
  </simpleType>
```

6.3.5.2 Output parameters

Mapping from IS setMOAttributes output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
modificationListOut	basicCMIRPData:MOSequenceTypemodificationListOut	M
status	basicCMIRPData:setMOAttributesFault	M

Here is the XML schema fragment of the setMOAttributes response:

```
<!-- setMOAttributes Response -->
  <element name="setMOAttributesResponse">
      <complexType>
          <sequence>
              <element name="modificationListOut" type="basicCMIRPData:MOSequenceType"/>
          </sequence>
      </complexType>
  </element>
```

6.3.5.3 Fault definition

```
<!-- setMOAttributes Fault -->
  <element name="setMOAttributesFault">
      <complexType>
          <choice>
              <element name="setMOAttributesFault" type="string"/>
              <element name="modifyNotAllowedFault" type="string"/>
              <element name="noSuchAttributeFault" type="string"/>
              <element name="invalidAttributeValueFault" type="string"/>
              <element name="missingAttributeValueFault" type="string"/>
              <element name="resourceLimitationFault" type="string"/>
              <element name="complexityLimitationFault" type="string"/>
              <element ref="basicCMIRPData:OperationNotSupportedFault"/>
              <element ref="basicCMIRPData:InvalidParameterFault"/>
          </choice>
      </complexType>
  </element>
```

Annex A (normative): WSDL specification

```
<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:basicCMIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/BasicCMIRPSystem"
xmlns:basicCMIRPData="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/BasicCMIRPData"
xmlns:genericIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
800/GenericIRPSystem"
targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/BasicCMIRPSystem">
    <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
800/GenericIRPSystem" location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
800-wsdl.zip"/>
    <types>
        <schema
targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/BasicCMIRPData" xmlns="http://www.w3.org/2001/XMLSchema">
            <!-- getMOAttributes Request -->
            <element name="getMOAttributes">
                <complexType>
                    <sequence>
                        <element name="invokeIdentifierIn" type="string"/>
                        <element name="queryXpathExp" type="string"/>
                    </sequence>
                </complexType>
            </element>
            <!-- getMoAttributes Response -->
            <element name="getMoAttributesResponse">
                <complexType>
                    <sequence>
                        <element name="invokeIdentifierOut" type="string"/>

                        <element name="moiListOut" type="basicCMIRPData:MOSequenceType"/>
                    </sequence>
                </complexType>
            </element>
            <complexType name="AnyMOType">
                <sequence>
                    <!--MO instance location in XPath expression-->
                    <element name="moiLocation" type="string"/>
                    <!--each MO-->
                    <any/>
                </sequence>
            </complexType>
            <complexType name="MOSequenceType">
                <sequence>
                    <element name="mo" type="basicCMIRPData:AnyMOType" minOccurs="0"
maxOccurs="unbounded"/>
                </sequence>
            </complexType>
            <!-- getMoAttributes Fault -->
            <element name="getMOAttributesFault">
                <complexType>
                    <choice>
                        <element name="getMOAttributesFault" type="string"/>
                        <element name="resourceLimitationFault" type="string"/>
                        <element name="operationCancelledFault" type="string"/>
                        <element name="complexityLimitationFault" type="string"/>
                        <element ref="basicCMIRPData:InvalidParameterFault"/>
                    </choice>
                </complexType>
            </element>


            <!-- getContainment Request -->
            <element name="getContainment">
                <complexType>
                    <sequence>
```

```
            <element name="invokeIdentifierIn" type="string"/>
            <element name="queryXpathExp" type="string"/>
                                </sequence>
    </complexType>
</element>

<!-- getContainment Response -->
<element name="getContainmentResponse">
    <complexType>
        <sequence>
            <!--top container element xpath location -->
            <element name="invokeIdentifierOut" type="string"/>
            <element name="topContainerLoc" type="string"/>
            <!--each element contains only id attribute and other MO it contains -->
            <any minOccurs="0" maxOccurs="unbounded"/>
        </sequence>
    </complexType>
</element>

<!-- getContainment Fault -->
<element name="getContainmentFault">
    <complexType>
        <choice>
            <element name="getContainmentFault" type="string"/>
            <element name="resourceLimitationFault" type="string"/>
            <element name="operationCancelledFault" type="string"/>
            <element name="complexityLimitationFault" type="string"/>
            <element ref="basicCMIRPData:OperationNotSupportedFault"/>
            <element ref="basicCMIRPData:InvalidParameterFault"/>
        </choice>
    </complexType>
</element>
<!-- createMO Request -->
<element name="createMO">
    <complexType>
        <sequence>
            <element name="mOIElementLoc" type="string"/>
            <element name="referenceObjectInstance" type="string"/>
            <element name="mO" type="basicCMIRPData:AnyMOType"/>
        </sequence>
    </complexType>
</element>
<!-- createMO Response -->
<element name="createMOResponse">
    <complexType>
        <sequence>
            <element name="mO" type="basicCMIRPData:AnyMOType"/>
        </sequence>
    </complexType>
</element>
<!-- createMO Fault -->
<element name="createMOFault">
    <complexType>
        <choice>
            <element name="createMOFault" type="string"/>
            <element name="objectClassSpecificationMissmatchedFault" type="string"/>
            <element name="InvalidObjectInstanceFault" type="string"/>
            <element name="createNotAllowedFault" type="string"/>
            <element name="noSuchObjectClassFault" type="string"/>
            <element name="classInstanceConflictFault" type="string"/>
            <element name="noSuchAttributeFault" type="string"/>
            <element name="invalidAttributeValueFault" type="string"/>
            <element name="missingAttributeValueFault" type="string"/>
            <element name="parentObjectDoesNotExistFault" type="string"/>
            <element ref="basicCMIRPData:OperationNotSupportedFault"/>
            <element ref="basicCMIRPData:InvalidParameterFault"/>
        </choice>
    </complexType>
</element>
<!-- deleteMO Request -->
<element name="deleteMO">
    <complexType>
        <sequence>
            <element name="queryXpathExp" type="string"/>
        </sequence>
    </complexType>
</element>
<!-- deleteMO Response -->
```

```
            <element name="deleteMOResponse">
                <complexType>
                    <sequence>
                        <element name="deletionList" type="basicCMIRPData:MOSequenceType">
                        </element>
                    </sequence>
                </complexType>
            </element>

            <!-- deleteMO Fault -->
            <element name="deleteMOFault">
                <complexType>
                    <choice>
                        <element name="deleteMOFault" type="string"/>
                        <element name="invalidObjectInstanceFault" type="string"/>
                        <element name="deleteNotAllowedFault" type="string"/>
                        <element name="resourceLimitationFault" type="string"/>
                        <element name="complexityLimitationFault" type="string"/>
                        <element ref="basicCMIRPData:OperationNotSupportedFault"/>
                        <element ref="basicCMIRPData:InvalidParameterFault"/>
                    </choice>
                </complexType>
            </element>
            <!-- setMOAttributes Request -->
            <element name="setMOAttributes">
                <complexType>
                    <sequence>
                        <element name="queryXpathExp" type="string"/><element
name="modificationList" type="basicCMIRP:AttributeModificationSetType"/>
                    </sequence>
                </complexType>
            </element>
            <simpleType name="ModifyOperatorType">
                <restriction base="string">
                    <enumeration value="REPLACE"/>
                    <enumeration value="ADDValues"/>
                    <enumeration value="REMOVEValues"/>
                    <enumeration value="SETToDefault"/>
                </restriction>
            </simpleType>
            <complexType name="AttributeModificationSetType">
                <sequence>
                    <element name="AttributeModification" maxOccurs="unbounded">
                        <complexType>
                            <sequence>
                                <any/>
                                <element name="operator" type="basicCMIRPData:ModifyOperatorType"/>
                            </sequence>
                        </complexType>
                    </element>
                </sequence>
            </complexType>
            <!-- setMOAttributes Response -->
            <element name="setMOAttributesResponse">
                <complexType>
                    <sequence>
                        <element name="modificationListOut" type="basicCMIRPData:MOSequenceType"/>
                    </sequence>
                </complexType>
            </element>

            <!-- setMOAttributes Fault -->
            <element name="setMOAttributesFault">
                <complexType>
                    <choice>
                        <element name="setMOAttributesFault" type="string"/>
                        <element name="modifyNotAllowedFault" type="string"/>
                        <element name="noSuchAttributeFault" type="string"/>
                        <element name="invalidAttributeValueFault" type="string"/>
                        <element name="missingAttributeValueFault" type="string"/>
                        <element name="resourceLimitationFault" type="string"/>
                        <element name="complexityLimitationFault" type="string"/>
                        <element ref="basicCMIRPData:OperationNotSupportedFault"/>
                        <element ref="basicCMIRPData:InvalidParameterFault"/>
                    </choice>
                </complexType>
            </element>
            <element name="OperationNotSupportedFault" type="string"/>
```

```
            <element name="InvalidParameterFault" type="string"/>
            <simpleType name="VersionNumberType">
                <restriction base="string"/>
            </simpleType>
            <complexType name="VersionNumberSetType">
                <sequence>
                    <element name="versionNumber" type="basicCMIRPData:VersionNumberType"
maxOccurs="unbounded"/>
                </sequence>
            </complexType>
            <complexType name="ParameterSetType">
                <sequence>
                    <element name="parameterName" type="string" maxOccurs="unbounded"/>
                </sequence>
            </complexType>
            <complexType name="OperationType">
                <sequence>
                    <element name="operationName" type="string"/>
                    <element name="parameterSet" type="basicCMIRPData:ParameterSetType"/>
                </sequence>
            </complexType>
            <complexType name="OperationSetType">
                <sequence>
                    <element name="operation" type="basicCMIRPData:OperationType"
maxOccurs="unbounded"/>
                </sequence>
            </complexType>
            <complexType name="NotificationType">
                <sequence>
                    <element name="notificationName" type="string"/>
                    <element name="parameterSet" type="basicCMIRPData:ParameterSetType"/>
                </sequence>
            </complexType>
            <complexType name="NotificationSetType">
                <sequence>
                    <element name="notification" type="basicCMIRPData:NotificationType"
maxOccurs="unbounded"/>
                </sequence>
            </complexType>
        </schema>
    </types>
    <message name="getMOAttributesRequest">
        <part name="parameter" element="basicCMIRPData:getMOAttributes"/>
    </message>
    <message name="getMOAttributesResponse">
        <part name="parameter" element="basicCMIRPData:getMoAttributesResponse"/>
    </message>
    <message name="getMOAttributesFault">
        <part name="parameter" element="basicCMIRPData:getMOAttributesFault"/>
    </message>
    <message name="getContainmentRequest">
        <part name="parameter" element="basicCMIRPData:getContainment"/>
    </message>
    <message name="getContainmentResponse">
        <part name="parameter" element="basicCMIRPData:getContainmentResponse"/>
    </message>
    <message name="getContainmentFault">
        <part name="parameter" element="basicCMIRPData:getContainmentFault"/>
    </message>

    <message name="createMORequest">
        <part name="parameter" element="basicCMIRPData:createMO"/>
    </message>
    <message name="createMOResponse">
        <part name="parameter" element="basicCMIRPData:createMOResponse"/>
    </message>
    <message name="createMOFault">
        <part name="parameter" element="basicCMIRPData:createMOFault"/>
    </message>
    <message name="deleteMORequest">
        <part name="parameter" element="basicCMIRPData:deleteMO"/>
    </message>
    <message name="deleteMOResponse">
        <part name="parameter" element="basicCMIRPData:deleteMOResponse"/>
    </message>
    <message name="deleteMOFault">
        <part name="parameter" element="basicCMIRPData:deleteMOFault"/>
    </message>
```

```
    <message name="setMOAttributesRequest">
        <part name="parameter" element="basicCMIRPData:setMOAttributes"/>
    </message>
    <message name="setMOAttributesResponse">
        <part name="parameter" element="basicCMIRPData:setMOAttributesResponse"/>
    </message>
    <message name="setMOAttributesFault">
        <part name="parameter" element="basicCMIRPData:setMOAttributesFault"/>
    </message>

    <portType name="BasicCMIRP">
        <operation name="getIRPVersion">
            <input message="genericIRPSystem:getIRPVersionRequest"/>
            <output message="genericIRPSystem:getIRPVersionResponse"/>
            <fault name="getIRPVersionFault" message="genericIRPSystem:getIRPVersionFault"/>
        </operation>
        <operation name="getOperationProfile">
            <input message="genericIRPSystem:getOperationProfileRequest"/>
            <output message="genericIRPSystem:getOperationProfileResponse"/>
            <fault name="getOperationProfileFault"
message="genericIRPSystem:getOperationProfileFault"/>
        </operation>
        <operation name="getNotificationProfile">
            <input message="genericIRPSystem:getNotificationProfileRequest"/>
            <output message="genericIRPSystem:getNotificationProfileResponse"/>
            <fault name="getNotificationProfileFault"
message="genericIRPSystem:getNotificationProfileFault"/>
        </operation>
        <operation name="getMOAttributes">
            <input message="basicCMIRPSystem:getMOAttributesRequest"/>
            <output message="basicCMIRPSystem:getMOAttributesResponse"/>
            <fault name="getMOAttributesFault" message="basicCMIRPSystem:getMOAttributesFault"/>
        </operation>
        <operation name="getContainment">
            <input message="basicCMIRPSystem:getContainmentRequest"/>
            <output message="basicCMIRPSystem:getContainmentResponse"/>
            <fault name="getContainmentFault" message="basicCMIRPSystem:getContainmentFault"/>
        </operation>

        <operation name="createMO">
            <input message="basicCMIRPSystem:createMORequest"/>
            <output message="basicCMIRPSystem:createMOResponse"/>
            <fault name="createMOFault" message="basicCMIRPSystem:createMOFault"/>
        </operation>
        <operation name="deleteMO">
            <input message="basicCMIRPSystem:deleteMORequest"/>
            <output message="basicCMIRPSystem:deleteMOResponse"/>
            <fault name="deleteMOFault" message="basicCMIRPSystem:deleteMOFault"/>
        </operation>
        <operation name="setMOAttributes">
            <input message="basicCMIRPSystem:setMOAttributesRequest"/>
            <output message="basicCMIRPSystem:setMOAttributesResponse"/>
            <fault name="setMOAttributesFault" message="basicCMIRPSystem:setMOAttributesFault"/>
        </operation>
    </portType>

    <binding name="BasicCMIRP" type="basicCMIRPSystem:BasicCMIRP">
        <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
        <operation name="getIRPVersion">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-800/getIRPVersion"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="getIRPVersionFault">
                <soap:fault name="getIRPVersionFault" use="literal"/>
            </fault>
        </operation>
        <operation name="getOperationProfile">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/getOperationProfile"/>
            <input>
                <soap:body use="literal"/>
            </input>
```

```
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="getOperationProfileFault">
                <soap:fault name="getOperationProfileFault" use="literal"/>
            </fault>
        </operation>
        <operation name="getNotificationProfile">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/getNotificationProfile"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="getNotificationProfileFault">
                <soap:fault name="getNotificationProfileFault" use="literal"/>
            </fault>
        </operation>
        <operation name="getMOAttributes">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/getMOAttributes"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="getMOAttributesFault">
                <soap:fault name="getMOAttributesFault" use="literal"/>
            </fault>
        </operation>
        <operation name="getContainment">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/getContainment"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="getContainmentFault">
                <soap:fault name="getContainmentFault" use="literal"/>
            </fault>
        </operation>

        <operation name="createMO">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-800/createMO"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="createMOFault">
                <soap:fault name="createMOFault" use="literal"/>
            </fault>
        </operation>
        <operation name="deleteMO">
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-800/deleteMO"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="deleteMOFault">
                <soap:fault name="deleteMOFault" use="literal"/>
            </fault>
        </operation>
        <operation name="setMOAttributes">
```

```
            <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.607/schema/32607-
800/setMOAttributes"/>
            <input>
                <soap:body use="literal"/>
            </input>
            <output>
                <soap:body use="literal"/>
            </output>
            <fault name="setMOAttributesFault">
                <soap:fault name="setMOAttributesFault" use="literal"/>
            </fault>
        </operation>
    </binding>
    <service name="BasicCMIRP">
        <port name="BasicCMIRP" binding="basicCMIRPSystem:BasicCMIRP">
            <soap:address location="To be defined."/>
        </port>
    </service>
</definitions>
```

Annex B (informative): Basic CM IRP WSDL/XML schema electronic files

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

http://www.3gpp.org/ftp/Specs/archive/32_series/32607/schema/32607-800-wsdl.zip

Annex C (informative): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**R**	**Subject/Comment**	**Cat**	**Old**	**New**
Dec 2005	SA_30	SP-050732	--	--	Submitted to TSG SA#30 for Information	--	1.0.0	
Dec 2006	SA_34	SP-060742	--	--	Submitted to TSG SA #34 for Approval	--	2.0.0	7.0.0
Mar 2007	--	--	--	--	Delete reference to the 32.604 CMIP SS. Reason: SA#35 endorsed the SA5 decision to not propagate the CMIP Solution Sets to Rel-7 (TS 32.3x4, TS 32.4x4, TS 32.6x4)	--	7.0.0	7.0.1
Jun 2007	SA_36	--	--	--	Introduction clean-up. TS layout cosmetics	--	7.0.1	7.0.2
Jun 2007	--	--	--	--	Changed TS Title. Reason: SOAP does not stand anymore for "Simple Object Access Protocol"	--	7.0.2	7.0.3
Dec 2008	SA_42	SP-080845	0001	-	Incorrect URI specified in TS 32.607 (both word document and corresponding wsdl file)	F	7.0.3	7.10
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	--	7.1.0	8.0.0

History

Document history		
V8.0.0	January 2009	Publication