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**LTE;  
Telecommunication management;  
Licensed Shared Access (LSA) Controller (LC)  
Integration Reference Point (IRP);  
Solution Set (SS) definitions  
(3GPP TS 28.303 version 15.0.0 Release 15)**



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Keywords

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# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	5
Introduction .....	5
1 Scope .....	6
2 References .....	6
3 Definitions and abbreviations.....	6
3.1 Definitions .....	6
3.2 Abbreviations .....	6
4 Solution Set Definitions .....	6
<b>Annex A (normative): CORBA Solution Set .....</b>	<b>8</b>
<b>Annex B (normative): SOAP Solution Set .....</b>	<b>9</b>
B.1 Architectural features .....	9
B.1.1 Supported W3C specifications .....	9
B.1.3 Prefixes and namespaces .....	9
B.2 Mapping .....	10
B.2.1 Operation mapping .....	10
B.2.2 Notification mapping.....	10
B.2.3 Operation parameter mapping .....	11
B.2.3.1 Operation requestLcRegistration .....	11
B.2.3.1.1 Input parameters.....	11
B.2.3.1.2 Output parameters.....	11
B.2.3.1.3 Fault definition.....	11
B.2.3.2 Operation requestLcDeRegistration.....	12
B.2.3.2.1 Input parameters.....	12
B.2.3.2.2 Output parameters.....	12
B.2.3.2.3 Fault definition.....	12
B.2.3.3 Operation getLSRAI .....	12
B.2.3.3.1 Input parameters.....	12
B.2.3.3.2 Output parameters.....	13
B.2.3.3.3 Fault definition.....	13
B.2.3.4 Operation getLSRAIConfirmation.....	13
B.2.3.4.1 Input parameters.....	13
B.2.3.4.2 Output parameters.....	13
B.2.3.4.3 Fault definition.....	14
B.2.3.5 Operation cellsUpdate .....	14
B.2.3.5.1 Input parameters.....	14
B.2.3.5.2 Output parameters.....	14
B.2.3.5.3 Fault definition.....	14
B.2.3.6 Operation cellsConstraintsSatisfied.....	15
B.2.3.6.1 Input parameters.....	15
B.2.3.6.2 Output parameters.....	15
B.2.3.6.3 Fault definition.....	15
B.2.3.7 Operation cellsConstraintsUpdate.....	15
B.2.3.7.1 Input parameters.....	15
B.2.3.7.2 Output parameters.....	16
B.2.3.7.3 Fault definition.....	16
B.2.4 Notification parameter mapping.....	16
B.2.4.1 Notification notifyLCRegistration .....	16

B.2.4.1.1	Input parameters.....	16
B.2.4.2	Notification notifyLCDeRegistration.....	16
B.2.4.2.1	Input parameters.....	16
B.2.4.3	Notification notifyZoneCreation.....	17
B.2.4.3.1	Input parameters.....	17
B.2.4.4	Notification notifyZoneDeletion.....	17
B.2.4.4.1	Input parameters.....	17
B.2.4.5	Notification notifyZoneModification.....	17
B.2.4.5.1	Input parameters.....	17
B.2.4.6	Notification notifyLSRAIConfirmation.....	18
B.2.4.6.1	Input parameters.....	18
B.3	Solution Set definitions .....	18
B.3.1	WSDL definition structure .....	18
B.3.2	Graphical Representation .....	18
B.3.3	WSDL specification "LCIRPLCRSystem.wsdl" .....	18
B.3.4	WSDL specification "LCIRPLCSystem.wsdl" (scenario 1).....	21
B.3.5	WSDL specification "LCIRPNMSystem.wsdl" (scenario 1) .....	23
B.3.6	WSDL specification "LCIRPLCSystem.wsdl" (scenario 2).....	25
B.3.7	WSDL specification "LCIRPNMSystem.wsdl" (scenario 2).....	27
<b>Annex C (informative):</b>	<b>Change history .....</b>	<b>30</b>
History .....		31

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# Foreword

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- z the third digit is incremented when editorial only changes have been incorporated in the document.

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# Introduction

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

- 28.301 LSA Controller (LC) Integration Reference Point (IRP); Requirements
- 28.302 LSA Controller (LC) Integration Reference Point (IRP); Information Service (IS)
- 28.303 LSA Controller (LC) Integration Reference Point (IRP); Solution Set (SS) definitions**

---

# 1 Scope

The purpose of the present document is to define the mapping of the LSA Controller (LC) Integration Reference Point (IRP) (see 3GPP TS 28.302 [2]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment and in a SOAP/WSDL environment.

This Solution Set specification is related to 3GPP TS 28.302 V14.0.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 TR 21.905: "Vocabulary for 3GPP Specifications".
  - [2] 3GPP TS 28.302: "Telecommunication Management; Licensed Shared Access (LSA) Controller (LC) Integration Reference Point (IRP); Information Service (IS)".
  - [3] W3C SOAP 1.1 specification: "Simple Object Access Protocol (SOAP) 1.1", (<http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>)
  - [4] W3C WSDL 1.1 specification: "Web Services Description Language (WSDL) 1.1", (<http://www.w3.org/TR/2001/NOTE-wsdl-20010315>)
  - [5] W3C SOAP 1.2 specification: "SOAP Version 1.2 Part 1: Messaging Framework", (<http://www.w3.org/TR/soap12-part1/>)
- 

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

### 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

CORBA	Common Object Request Broker Architecture
OMG	Object Management Group
WSDL	Web Service Description Language

---

## 4 Solution Set Definitions

The present document defines the following Solution Set definitions:

Annex A provides the CORBA Solution Set.  
Annex B provides the SOAP Solution Set.



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## Annex A (normative): CORBA Solution Set

This annex specifies the CORBA Solution Set for the IRP whose semantics are specified in 3GPP TS 28.302 [2].

The CORBA Solution Set is not provided in the present document.

## Annex B (normative): SOAP Solution Set

This annex specifies the SOAP Solution Set for the IRP whose semantics are specified in 3GPP TS 28.302 [2].

### B.1 Architectural features

#### B.1.1 Supported W3C specifications

The SOAP 1.1 specification [3] and WSDL 1.1 specification [4] are supported.

The SOAP 1.2 specification [5] is supported optionally.

The present document uses "document" style in the WSDL description.

The present document uses "literal" encoding style in the WSDL description.

#### B.1.3 Prefixes and namespaces

The present document uses a number of namespace prefixes throughout that are listed in table B.1.3.1.

**Table B.1.3.1: Prefixes and Namespaces used in the present document**

Prefix	Namespace
http	http://schemas.xmlsoap.org/wsdl/http/
soap	http://schemas.xmlsoap.org/wsdl/soap/
soapenc	http://schemas.xmlsoap.org/soap/encoding/
xs	http://www.w3.org/2001/XMLSchema
LCIRPLCSystem	http://www.3gpp.org/ftp/specs/archive/28_series/28303#LCIRPLCSystem
LCIRPNMData	http://www.3gpp.org/ftp/specs/archive/28_series/28303#LCIRPNMData
LCIRPLCRSystem	http://www.3gpp.org/ftp/specs/archive/28_series/28303#LCIRPLCRSystem

## B.2 Mapping

### B.2.1 Operation mapping

3GPP TS 28.302 [2] defines the semantics of operations. This chapter specifies the mapping of these operations to their SS equivalents.

Table B.2.1.1: Mapping from IS operations to SS equivalents (scenario 1, interface OperationsInvokedByNM)

IS operation (3GPP TS 28.302 [2])	SS operation	Port	Support Qualifier
requestLcRegistration	requestLcRegistration	LCIRPLCPort	M
requestLcDeRegistration	requestLcDeRegistration	LCIRPLCPort	M
getLSRAI	getLSRAI	LCIRPLCPort	M

Table B.2.1.2: Mapping from IS operations to SS equivalents (scenario 1, interface OperationsInvokedByLC)

IS operation (3GPP TS 28.302 [2])	SS operation	Port	Support Qualifier
getLSRAIConfirmation	getLSRAIConfirmation	LCIRPNMPort	M

Table B.2.1.3: Mapping from IS operations to SS equivalents (scenario 2, interface OperationsInvokedByNM)

IS operation (3GPP TS 28.302 [2])	SS operation	Port	Support Qualifier
cellsUpdate	cellsUpdate	LCIRPLCPort	M
cellsConstraintsSatisfied	cellsConstraintsSatisfied	LCIRPLCPort	M

Table B.2.1.4: Mapping from IS operations to SS equivalents (scenario 2, interface OperationsInvokedByLC)

IS operation (3GPP TS 28.302 [2])	SS operation	Port	Support Qualifier
cellsConstraintsUpdate	cellsConstraintsUpdate	LCIRPNMPort	M

### B.2.2 Notification mapping

3GPP TS 28.302 [2] defines the semantics of notifications. This clause specifies the mapping of these notifications to their SS equivalents.

Table B.2.2.1: Mapping from IS operations to SS equivalents (scenario 1, interface NotificationsEmittedByLC)

IS notification (3GPP TS 28.302 [2])	SS notification	Port	Support Qualifier
notifyLCRegistration	notifyLCRegistration	LCIRPLCPort	M
notifyLCDeRegistration	notifyLCDeRegistration	LCIRPLCPort	M
notifyZoneCreation	notifyZoneCreation	LCIRPLCPort	M
notifyZoneDeletion	notifyZoneDeletion	LCIRPLCPort	M
notifyZoneModification	notifyZoneModification	LCIRPLCPort	M

Table B.2.2.2: Mapping from IS operations to SS equivalents (scenario 1, interface NotificationsEmittedByNM)

IS notification (3GPP TS 28.302 [2])	SS notification	Port	Support Qualifier
notifyLSRAIConfirmation	notifyLSRAIConfirmation	LCIRPNMPort	M

Table B.2.2.3: Mapping from IS operations to SS equivalents (scenario 2, interface NotificationsEmittedByLC)

IS notification (3GPP TS 28.302 [2])	SS notification	Port	Support Qualifier
notifyLCRegistration	notifyLCRegistration	LCIRPLCPort	M
notifyLCDeRegistration	notifyLCDeRegistration	LCIRPLCPort	M

Table B.2.2.4: Mapping from IS operations to SS equivalents (scenario 2, interface NotificationsEmittedByNM)

IS notification (3GPP TS 28.302 [2])	SS notification	Port	Support Qualifier

## B.2.3 Operation parameter mapping

### B.2.3.1 Operation requestLcRegistration

#### B.2.3.1.1 Input parameters

Table B.2.3.1.1.1: Mapping from IS requestLcRegistration input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
licenseeId	licenseeId	M
lCId	lCId	M
lRId	lRId	M

XML schema fragment of the requestLcRegistration request:

```
<element name="requestLcRegistrationRequest">
  <complexType>
    <sequence>
      <element name="licenseeId" type="integer"/>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>
```

#### B.2.3.1.2 Output parameters

Table B.2.3.1.2.1: Mapping from IS requestLcRegistration output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
licenseeId	licenseeId	M
lCId	lCId	M
lRId	lRId	M
cause	cause	M
result	No direct mapping	--

XML schema fragment of the requestLcRegistration response:

```
<element name="requestLcRegistrationResponse">
  <complexType>
    <sequence>
      <element name="licenseeId" type="integer"/>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>
```

#### B.2.3.1.3 Fault definition

```
<element name="requestLcRegistrationFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>
```

## B.2.3.2 Operation requestLcDeRegistration

### B.2.3.2.1 Input parameters

Table B.2.3.2.1.1: Mapping from IS requestLcDeRegistration input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
lCId	lCId	M
lRId	lRId	M

XML schema fragment of the requestLcDeRegistration request:

```
<element name="requestLcDeRegistrationRequest">
  <complexType>
    <sequence>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>
```

### B.2.3.2.2 Output parameters

Table B.2.3.2.2.2: Mapping from IS requestLcDeRegistration output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
lCId	lCId	M
lRId	lRId	M
cause	cause	M
result	No direct mapping	--

XML schema fragment of the requestLcDeRegistration response:

```
<element name="requestLcDeRegistrationResponse">
  <complexType>
    <sequence>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>
```

### B.2.3.2.3 Fault definition

```
<element name="requestLcDeRegistrationFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>
```

## B.2.3.3 Operation getLSRAI

### B.2.3.3.1 Input parameters

Table B.2.3.3.1.1: Mapping from IS getLSRAI input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
scope	scope	M

XML schema fragment of the getLSRAI request:

```
<element name="getLSRAIRequest">
  <complexType>
```

```

<sequence>
  <element name="scope" type="zoneIdListType" />
</sequence>
</complexType>
</element>

```

### B.2.3.3.2 Output parameters

Table B.2.3.3.2.1: Mapping from IS getLSRAI output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
ISRAI	ISRAI	M
status	No direct mapping	--

XML schema fragment of the getLSRAI response:

```

<element name="getLSRAIResponse">
  <complexType>
    <sequence>
      <element name="lSRAI" type="lSRAIlocType" />
    </sequence>
  </complexType>
</element>

```

### B.2.3.3.3 Fault definition

```

<element name="getLSRAIFault">
  <complexType>
    <choice>
      <element name="cause" type="integer" />
    </choice>
  </complexType>
</element>

```

## B.2.3.4 Operation getLSRAIConfirmation

### B.2.3.4.1 Input parameters

Table B.2.3.4.1.1: Mapping from IS getLSRAIConfirmation input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
status	No direct mapping	--

XML schema fragment of the getLSRAIConfirmation request:

```

<element name="getLSRAIConfirmationRequest">
  <complexType>
    <sequence>
      </sequence>
  </complexType>
</element>

```

### B.2.3.4.2 Output parameters

Table B.2.3.4.2.1: Mapping from IS getLSRAIConfirmation output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
confirmedZoneList	confirmedZoneList	M

XML schema fragment of the getLSRAIConfirmation response:

```

<element name="getLSRAIConfirmationResponse">
  <complexType>
    <sequence>
      <element name="confirmedZoneList" type="zoneIdListType" />
    </sequence>
  </complexType>
</element>

```

```

    </complexType>
  </element>

```

### B.2.3.4.3 Fault definition

```

<element name="getLSRAIConfirmationFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>

```

## B.2.3.5 Operation cellsUpdate

### B.2.3.5.1 Input parameters

Table B.2.3.5.1.1: Mapping from IS cellsUpdate input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
addedLSACells	addedLSACells	O
modifiedLSACells	modifiedLSACells	O
removedLSACells	removedLSACells	O

XML schema fragment of the cellsUpdate request:

```

<element name="cellsUpdate">
  <complexType>
    <sequence>
      <element name="addedLSACells" type="LSACellSType" minOccurs="0"/>
      <element name="modifiedCells" type="LSACellSType" minOccurs="0"/>
      <element name="removedCells" type="LSACellsType" minOccurs="0"/>
    </sequence>
  </complexType>
</element>

```

### B.2.3.5.2 Output parameters

Table B.2.3.5.2.1: Mapping from IS cellsUpdate output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
status	No direct mapping	--

XML schema fragment of the cellsUpdate response:

```

<element name="cellsUpdate">
  <complexType>
    <sequence>
    </sequence>
  </complexType>
</element>

```

### B.2.3.5.3 Fault definition

```

<element name="cellsUpdate">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>

```

## B.2.3.6 Operation cellsConstraintsSatisfied

### B.2.3.6.1 Input parameters

Table B.2.3.6.1.1: Mapping from IS cellsConstraintsSatisfied input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
cellsConstraints	cellsConstraints	M

XML schema fragment of the cellsConstraintsSatisfied request:

```
<element name="cellsConstraintsSatisfied">
  <complexType>
    <sequence>
      <element name="cellsConstraints" type="cellsConstraintsType"/>
    </sequence>
  </complexType>
</element>
```

### B.2.3.6.2 Output parameters

Table B.2.3.6.2.1: Mapping from IS cellsConstraintsSatisfied output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
status	No direct mapping	--

XML schema fragment of the cellsConstraintsSatisfied response:

```
<element name="cellsConstraintsSatisfied">
  <complexType>
    <sequence>
    </sequence>
  </complexType>
</element>
```

### B.2.3.6.3 Fault definition

```
<element name="cellsConstraintsSatisfied">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>
```

## B.2.3.7 Operation cellsConstraintsUpdate

### B.2.3.7.1 Input parameters

Table B.2.3.7.1.1: Mapping from IS cellsConstraintsUpdate input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
cellsConstraints	cellsConstraints	M

XML schema fragment of the cellsConstraintsUpdaterequest:

```
<element name="cellsConstraintsUpdate">
  <complexType>
    <sequence>
      <element name="cellsConstraints" type="cellsConstraintsType"/>
    </sequence>
  </complexType>
</element>
```



### B.2.3.7.2 Output parameters

Table B.2.3.7.2.1: Mapping from IS `cellsConstraintsUpdate` output parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
status	No direct mapping	--

XML schema fragment of the `cellsConstraintsUpdate` response:

```
<element name="cellsConstraintsUpdate">
  <complexType>
    <sequence>
    </sequence>
  </complexType>
</element>
```

### B.2.3.7.3 Fault definition

```
<element name="cellsConstraintsUpdate">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>
```

## B.2.4 Notification parameter mapping

### B.2.4.1 Notification `notifyLCRegistration`

#### B.2.4.1.1 Input parameters

Table B.2.4.1.1.1: Mapping from IS `notifyLCRegistration` input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
licenseId	licenseId	M
lCId	lCId	M
lRId	lRId	M

XML schema fragment of the `notifyLCRegistration` request:

```
<!-- notifyLCRegistration Request -->
<element name="notifyLCRegistration">
  <complexType>
    <sequence>
      <element name="licenseId" type="integer"/>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>
```

### B.2.4.2 Notification `notifyLCDeRegistration`

#### B.2.4.2.1 Input parameters

Table B.2.4.2.1.1: Mapping from IS `notifyLCDeRegistration` input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
licenseId	licenseId	M
lCId	lCId	M
lRId	lRId	M

XML schema fragment of the `notifyLCDeRegistration` request:

```

<!-- notifyLCDeRegistration Request -->
<element name="notifyLCDeRegistration">
  <complexType>
    <sequence>
      <element name="licenseeId" type="integer"/>
      <element name="lCId" type="integer"/>
      <element name="lRId" type="integer"/>
    </sequence>
  </complexType>
</element>

```

## B.2.4.3 Notification notifyZoneCreation

### B.2.4.3.1 Input parameters

Table B.2.4.3.1.1: Mapping from IS notifyZoneCreation input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
ISRAI	ISRAI	M

XML schema fragment of the notifyZoneCreation request:

```

<!-- notifyZoneCreation Request -->
<element name="notifyZoneCreation">
  <complexType>
    <sequence>
      <element name="lSRAI" type="lSRAIIocType"/>
    </sequence>
  </complexType>
</element>

```

## B.2.4.4 Notification notifyZoneDeletion

### B.2.4.4.1 Input parameters

Table B.2.4.4.1.1: Mapping from IS notifyZoneDeletion input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
ISRAI	ISRAI	M

XML schema fragment of the notifyZoneDeletion request:

```

<!-- notifyZoneDeletion Request -->
<element name="notifyZoneDeletion">
  <complexType>
    <sequence>
      <element name="lSRAI" type="lSRAIIocType"/>
    </sequence>
  </complexType>
</element>

```

## B.2.4.5 Notification notifyZoneModification

### B.2.4.5.1 Input parameters

Table B.2.4.5.1.1: Mapping from IS notifyZoneModification input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
ISRAI	ISRAI	M

XML schema fragment of the notifyZoneModification request:

```

<!-- notifyZoneModification Request -->
<element name="notifyZoneModification">
  <complexType>
    <sequence>
      <element name="lSRAI" type=" lSRAIIocType "/>
    </sequence>
  </complexType>
</element>

```

## B.2.4.6 Notification notifyLSRAIConfirmation

### B.2.4.6.1 Input parameters

Table B.2.4.6.1.1: Mapping from IS notifyLSRAIConfirmation input parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
confirmedZoneList	confirmedZoneList	M

XML schema fragment of the notifyLSRAIConfirmation request:

```

<!-- notifyLSRAIConfirmation Request -->
<element name="notifyLSRAIConfirmation">
  <complexType>
    <sequence>
      <element name="confirmedZoneList" type="zoneIdListType"/>
    </sequence>
  </complexType>
</element>

```

---

## B.3 Solution Set definitions

### B.3.1 WSDL definition structure

Clause B.3.2 provides a graphical representation of the Licensed Shared Access (LSA) Controller (LC) IRP service.

Clause B.3.3 defines the services which are supported by the Licensed Shared Access (LSA) Controller (LC) IRP agent in the LC and which are common for scenario 1 and scenario 2.

Clause B.3.4 defines the services which are supported by the Licensed Shared Access (LSA) Controller (LC) IRP agent in the LC for scenario 1.

Clause B.3.5 defines the services which are supported by the Licensed Shared Access (LSA) Controller (LC) IRP agent in the NM for scenario 1.

Clause B.3.6 defines the services which are supported by the Licensed Shared Access (LSA) Controller (LC) IRP agent in the LC for scenario 2.

Clause B.3.7 defines the services which are supported by the Licensed Shared Access (LSA) Controller (LC) IRP agent in the NM for scenario 2.

### B.3.2 Graphical Representation

A graphical representation is not provided in the present document.

### B.3.3 WSDL specification "LCIRPLCRSystem.wsdl"

```

<?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:LCIRPLCRSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCRSystem"

```

```

xmlns:LCIRPLCRData="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCRData"

targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/28.303#LCIRPLCRSystem">
<!------->
<!-- Type definitions ----->
<!------->

<types>
  <schema targetNamespace="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCRData"
    xmlns="http://www.w3.org/2001/XMLSchema">

    <element name="requestLcRegistrationRequest">
      <complexType>
        <sequence>
          <element name="licenseeId" type="integer"/>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>
    <element name="requestLcRegistrationResponse">
      <complexType>
        <sequence>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>
    <element name="requestLcRegistrationFault">
      <complexType>
        <choice>
          <element name="cause" type="integer"/>
        </choice>
      </complexType>
    </element>

    <element name="requestLcDeRegistrationRequest">
      <complexType>
        <sequence>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>
    <element name="requestLcDeRegistrationResponse">
      <complexType>
        <sequence>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>
    <element name="requestLcDeRegistrationFault">
      <complexType>
        <choice>
          <element name="cause" type="integer"/>
        </choice>
      </complexType>
    </element>

    <element name="notifyLCRegistration">
      <complexType>
        <sequence>
          <element name="licenseeId" type="integer"/>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>

    <element name="notifyLCDeRegistration">
      <complexType>
        <sequence>
          <element name="licenseeId" type="integer"/>
          <element name="lCId" type="integer"/>
          <element name="lRId" type="integer"/>
        </sequence>
      </complexType>
    </element>

  </schema>
</types>

<!------->
<!-- Message definitions ----->
<!------->

<message name="requestLcRegistrationRequest">

```

```

    <part name="parameter" element="LCIRPLCRData:requestLcRegistrationRequest"/>
  </message>
<message name="requestLcRegistrationResponse">
  <part name="parameter" element="LCIRPLCRData:requestLcRegistrationResponse"/>
</message>
<message name="requestLcRegistrationFault">
  <part name="parameter" element="LCIRPLCRData:requestLcRegistrationFault"/>
</message>

<message name="requestLcDeRegistrationRequest">
  <part name="parameter" element="LCIRPLCRData:requestLcDeRegistrationRequest"/>
</message>
<message name="requestLcDeRegistrationResponse">
  <part name="parameter" element="LCIRPLCRData:requestLcDeRegistrationResponse"/>
</message>
<message name="requestLcDeRegistrationFault">
  <part name="parameter" element="LCIRPLCRData:requestLcDeRegistrationFault"/>
</message>

<message name="notifyLCRegistrationRequest">
  <part name="parameter" element="LCIRPLCRData:notifyLCRegistration"/>
</message>

<message name="notifyLCDeRegistrationRequest">
  <part name="parameter" element="LCIRPLCRData:notifyLCDeRegistration"/>
</message>

<!------->
<!-- Port type definitions -->
<!------->

<portType name="LCIRPLCRRPortType">

  <operation name="requestLcRegistration">
    <input message="LCIRPLCRSystem:requestLcRegistrationRequest"/>
    <output message="LCIRPLCRSystem:requestLcRegistrationResponse"/>
    <fault name="requestLcRegistrationFault" message="LCIRPLCRSystem:requestLcRegistrationFault"/>
  </operation>

  <operation name="requestLcDeRegistration">
    <input message="LCIRPLCRSystem:requestLcDeRegistrationRequest"/>
    <output message="LCIRPLCRSystem:requestLcDeRegistrationResponse"/>
    <fault name="requestLcDeRegistrationFault" message="LCIRPLCRSystem:requestLcDeRegistrationFault"/>
  </operation>

  <operation name="notifyLCRegistration">
    <input message="LCIRPLCRSystem:notifyLCRegistrationRequest"/>
  </operation>

  <operation name="notifyLCDeRegistration">
    <input message="LCIRPLCRSystem:notifyLCDeRegistrationRequest"/>
  </operation>
</portType>

<!------->
<!-- Bindings -->
<!------->

<binding name="LCIRPLCRBinding" type="LCIRPLCRSystem:LCIRPLCRRPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>

  <operation name="requestLcRegistration">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#requestLcRegistration"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="requestLcRegistrationFault">
      <soap:fault name="requestLcRegistrationFault" use="literal"/>
    </fault>
  </operation>

  <operation name="requestLcDeRegistration">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#requestLcDeRegistration"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="requestLcDeRegistrationFault">
      <soap:fault name="requestLcDeRegistrationFault" use="literal"/>
    </fault>
  </operation>

  <operation name="notifyLCRegistration">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyLCRegistration"/>
    <input>

```

```

    <soap:body use="literal"/>
  </input>
</operation>

<operation name="notifyLCDeregistration">
  <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyLCDeregistration"/>
  <input>
    <soap:body use="literal"/>
  </input>
</operation>

</binding>

```

## B.3.4 WSDL specification "LCIRPLCSystem.wsdl" (scenario 1)

```

<?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:LCIRPLCSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCSystem"
  xmlns:LCIRPLCData="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCData"

  xmlns:LCIRPLCRSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCRSystem"

  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/28.303#LCIRPLCSystem">
  <!-- Type definitions -->
  <!-- Type definitions -->
  <!-- Type definitions -->
  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCData"
      xmlns="http://www.w3.org/2001/XMLSchema">
      <complexType name="zoneIdListType">
        <sequence minOccurs="0" maxOccurs="unbounded">
          <element name="zoneId" type="integer"/>
        </sequence>
      </complexType>
      <complexType name="zoneIocType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <sequence>
                <element name="zoneId" type="integer"/>
                <element name="zoneType" type="integer"/>
                <element name="frequency" type="integer"/>
                <element name="radioconstraints" type="anyType"/>
                <element name="space" type="anyType"/>
                <element name="time" type="anyType"/>
              </sequence>
            </complexType>
          </element>
        </sequence>
      </complexType>
      <complexType name="LSRAIIocType">
        <sequence minOccurs="0" maxOccurs="unbounded">
          <element name="zone" type="LCIRPLCData:zoneIocType"/>
        </sequence>
      </complexType>
      <element name="getLSRAIRequest">
        <complexType>
          <sequence>
            <element name="scope" type="LCIRPLCData:zoneIdListType"/>
          </sequence>
        </complexType>
      </element>
      <element name="getLSRAIResponse">
        <complexType>
          <sequence>
            <element name="LSRAI" type="LCIRPLCData:LSRAIIocType"/>
          </sequence>
        </complexType>
      </element>
      <element name="getLSRAIFault">
        <complexType>
          <choice>
            <element name="cause" type="integer"/>
          </choice>
        </complexType>
      </element>
    </schema>
  </types>

```

```

    <element name="notifyZoneCreation">
      <complexType>
        <sequence>
          <element name="lSRAI" type="LCIRPLCData:lSRAIIocType" />
        </sequence>
      </complexType>
    </element>

    <element name="notifyZoneDeletion">
      <complexType>
        <sequence>
          <element name="lSRAI" type="LCIRPLCData:lSRAIIocType" />
        </sequence>
      </complexType>
    </element>

    <element name="notifyZoneModification">
      <complexType>
        <sequence>
          <element name="lSRAI" type="LCIRPLCData:lSRAIIocType" />
        </sequence>
      </complexType>
    </element>

  </schema>
</types>

<!------->
<!-- Message definitions ----->
<!------->

<message name="getLSRAIRequest">
  <part name="parameter" element="LCRPLCData:getLSRAIRequest" />
</message>
<message name="getLSRAIResponse">
  <part name="parameter" element="LCIRPLCData:getLSRAIResponse" />
</message>
<message name="getLSRAIFault">
  <part name="parameter" element="getLSRAIFault" />
</message>

<message name="notifyZoneCreationRequest">
  <part name="parameter" element="LCRPLCData:notifyCreation" />
</message>

<message name="notifyZoneDeletionRequest">
  <part name="parameter" element="LCRPLCData:notifyDeletion" />
</message>

<message name="notifyZoneModificationRequest">
  <part name="parameter" element="LCRPLCData:notifyZoneModification" />
</message>

<!------->
<!-- Port type definitions ----->
<!------->

<portType name="LCIRPLCPortType">
  <operation name="getLSRAI">
    <input message="LCIRPLCSystem:getLSRAIRequest" />
    <output message="LCIRPLCSystem:getLSRAIResponse" />
    <fault name="getLSRAIFault" message="LCIRPLCSystem:getLSRAIFault" />
  </operation>

  <operation name="notifyZoneCreation">
    <input message="LCIRPLCSystem:notifyZoneCreationRequest" />
  </operation>

  <operation name="notifyZoneDeletion">
    <input message="LCIRPLCSystem:notifyZoneDeletionRequest" />
  </operation>

  <operation name="notifyZoneModification">
    <input message="LCIRPLCSystem:notifyZoneModificationRequest" />
  </operation>
</portType>

<!------->
<!-- Bindings ----->
<!------->

<binding name="LCIRPLCBinding" type="LCIRPLCSystem:LCIRPLCPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http" />
  <operation name="getLSRAI">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#getLSRAI" />
    <input>
      <soap:body use="literal" />
    </input>
  </operation>
</binding>

```

```

    </input>
  <output>
    <soap:body use="literal"/>
  </output>
  <fault name="getLSRAIFault">
    <soap:fault name="getLSRAIFault" use="literal"/>
  </fault>
</operation>

<operation name="notifyZoneCreation">
  <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyZoneCreation"/>
  <input>
    <soap:body use="literal"/>
  </input>
</operation>

<operation name="notifyZoneDeletion">
  <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyZoneDeletion"/>
  <input>
    <soap:body use="literal"/>
  </input>
</operation>

<operation name="notifyZoneModification">
  <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyZoneModification"/>
  <input>
    <soap:body use="literal"/>
  </input>
</operation>
</binding>

<!------->
<!-- LC IRP service definitions (IRP Agent in LC, scenario 1) -->
<!------->

<service name="LCIRPLCService">
  <port name="LCIRPLCRPort" binding="LCIRPLCRSystem:LCIRPLCRBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>

  <port name="LCIRPLCPort" binding="LCIRPLCSystem:LCIRPLCBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>
</service>
</definitions>

```

## B.3.5 WSDL specification "LCIRPNMSystem.wsdl" (scenario 1)

```

<?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:LCIRPNMSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPNMSystem"
  xmlns:LCIRPLNMDData="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLNMDData"

  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/28.303#LCIRPLCSystem">
  <!------->
  <!-- Type definitions -->
  <!------->

  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLNMDData"
      xmlns="http://www.w3.org/2001/XMLSchema">

      <complexType name="zoneIdListType">
        <sequence minOccurs="0" maxOccurs="unbounded">
          <element name="zoneId" type="integer"/>
        </sequence>
      </complexType>

      <element name="getLSRAICConfirmationRequest">
        <complexType>
          <sequence>
            </sequence>
        </complexType>
      </element>
      <element name="getLSRAICConfirmationResponse">
        <complexType>
          <sequence>

```



```

        <element name="confirmedZoneList" type="LCIRPNMData:zoneIdListType"/>
      </sequence>
    </complexType>
  </element>
  <element name="getLSRAIConfirmationFault">
    <complexType>
      <choice>
        <element name="cause" type="integer"/>
      </choice>
    </complexType>
  </element>

  <element name="notifyLSRAIConfirmation">
    <complexType>
      <sequence>
        <element name="confirmedZoneList" type="LCIRPNMData:zoneIdListType"/>
      </sequence>
    </complexType>
  </schema>
</types>

<!------->
<!-- Message definitions -->
<!------->

<message name="getLSRAIConfirmationRequest">
  <part name="parameter" element="LCIRPNMData:getLSRAIConfirmationRequest"/>
</message>
<message name="getLSRAIConfirmationResponse">
  <part name="parameter" element="LCIRPNMData:getLSRAIConfirmationResponse"/>
</message>
<message name="getLSRAIConfirmationFault">
  <part name="parameter" element="LCIRPNMData:getLSRAIConfirmationFault"/>
</message>

<message name="notifyLSRAIConfirmationRequest">
  <part name="parameter" element="LCIRPNMData:notifyZoneConfirmation"/>
</message>

<!------->
<!-- Port type definitions -->
<!------->

<portType name="LCIRPNMPortType">

  <operation name="getLSRAIConfirmation">
    <input message="LCIRPNMSystem:getLSRAIConfirmationRequest"/>
    <output message="LCIRPNMSystem:getLSRAIConfirmationResponse"/>
    <fault name="getLSRAIConfirmationFault" message="LCIRPNMSystem:getLSRAIConfirmationFault"/>
  </operation>

  <operation name="notifyLSRAIConfirmation">
    <input message="LCIRPNMSystem:notifyLSRAIConfirmationRequest"/>
  </operation>
</portType>

<!------->
<!-- Bindings -->
<!------->

<binding name="LCIRPNMBinding" type="LCIRPNMSystem:LCIRPNMPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>

  <operation name="getLSRAIConfirmation">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#getLSRAIConfirmation"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="getLSRAIConfirmationFault">
      <soap:fault name="getLSRAIConfirmationFault" use="literal"/>
    </fault>
  </operation>

  <operation name="notifyLSRAIConfirmation">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#notifyZoneConfirmation"/>
    <input>
      <soap:body use="literal"/>
    </input>
  </operation>
</binding>

<!------->

```

```

<!-- LC IRP service definitions (IRP Agent in NM, scenario 1          -->
<!------->

<service name="LCIRPNMService">

  <port name="LCIRPNMPort" binding="LCIRPNMSystem:LCIRPNMBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>

</service>

</definitions>

```

## B.3.6 WSDL specification "LCIRPLCSystem.wsdl" (scenario 2)

```

<?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:LCIRPLCSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCSystem"
  xmlns:LCIRPLCData="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCData"

  xmlns:LCIRPLCRSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCRSystem"

  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/28.303#LCIRPLCSystem">

  <!------->
  <!-- Type definitions          -->
  <!------->

  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLCData"
      xmlns="http://www.w3.org/2001/XMLSchema">

      <complexType name = "lSACellType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <sequence>
                <element name="cellId" type="string"/>
                <element name="geographicalArea" type="anyType"/>
                <element name="maxAllowedEIRP" type="integer"/>
                <element name="minAllowedEIRP" type="integer"/>
                <element name="maxAllowedAntennaAltitude" type="integer"/>
                <element name="minAllowedAntennaAltitude" type="integer"/>
                <element name="maxAllowedAntennaTilt" type="integer"/>
                <element name="minAllowedAntennaTilt" type="integer"/>
                <element name="antennaPatternLabel" type="string"/>
                <element name="antennaType" type="string"/>
              </sequence>
            </complexType>
          </element>
        </sequence>
      </complexType>

      <complexType name="lSACellsType">
        <sequence minOccurs="0" maxOccurs="unbounded">
          <element name="lSACell" type="lSACellType"/>
        </sequence>
      </complexType>

      <complexType name = "cellConstraintsType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <sequence>
                <element name="cellId" type="string"/>
                <element name="maxAllowedEIRP" type="integer"/>
                <element name="maxLeadTime" type="integer"/>
              </sequence>
            </complexType>
          </element>
        </sequence>
      </complexType>

      <complexType name="cellsConstraintsType">
        <sequence minOccurs="0" maxOccurs="unbounded">
          <element name="cellConstraints" type="cellConstraintsType"/>
        </sequence>
      </complexType>

      <element name="cellsUpdateRequest">
        <complexType>

```

```

    <sequence>
      <element name="addedLSACells" type="LSACellSType" minOccurs="0"/>
      <element name="modifiedCells" type="LSACellSType" minOccurs="0"/>
      <element name="removedCells" type="LSACellSType" minOccurs="0"/>
    </sequence>
  </complexType>
</element>
<element name="cellsUpdateResponse">
  <complexType>
    <sequence>
    </sequence>
  </complexType>
</element>
<element name="cellsUpdateFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>

<element name="cellsConstraintsSatisfiedRequest">
  <element name="cellsConstraints" type="cellsConstraintsType"/>
  <sequence>
  </sequence>
</complexType>
</element>
<element name="cellsConstraintsSatisfiedResponse">
  <complexType>
    <sequence>
    </sequence>
  </complexType>
</element>
<element name="cellsConstraintsSatisfiedFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>
</schema>
</types>

<!------->
<!-- Message definitions -->
<!------->

<message name="cellsUpdateRequest">
  <part name="parameter" element="LCRPLCData:cellsUpdateRequest"/>
</message>
<message name="cellsUpdateResponse">
  <part name="parameter" element="LCIRPLCData:cellsUpdateResponse"/>
</message>
<message name="cellsUpdateFault">
  <part name="parameter" element="cellsUpdateFault"/>
</message>

<message name="cellsConstraintsSatisfiedRequest">
  <part name="parameter" element="LCRPLCData:cellsConstraintsSatisfiedRequest"/>
</message>
<message name="cellsConstraintsSatisfiedResponse">
  <part name="parameter" element="LCIRPLCData:cellsConstraintsSatisfiedResponse"/>
</message>
<message name="cellsConstraintsSatisfiedFault">
  <part name="parameter" element="cellsConstraintsSatisfiedFault"/>
</message>

<!------->
<!-- Port type definitions -->
<!------->

<portType name="LCIRPLCPortType">

  <operation name="cellsUpdate">
    <input message="LCIRPLCSystem:cellsUpdateRequest"/>
    <output message="LCIRPLCSystem:cellsUpdateResponse"/>
    <fault name="cellsUpdateFault" message="LCIRPLCSystem:cellsUpdateFault"/>
  </operation>

  <operation name="cellsConstraintsSatisfied">
    <input message="LCIRPLCSystem:cellsConstraintsSatisfiedRequest"/>
    <output message="LCIRPLCSystem:cellsConstraintsSatisfiedResponse"/>
    <fault name="cellsConstraintsSatisfiedFault" message="LCIRPLCSystem:cellsConstraintsSatisfiedFault"/>
  </operation>

</portType>

<!------->
<!-- Bindings -->

```

```

<!------->
<binding name="LCIRPLCBinding" type="LCIRPLCSystem:LCIRPLCPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>

  <operation name="cellsUpdate">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#cellsUpdate"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="cellsUpdateFault">
      <soap:fault name="cellsUpdateFault" use="literal"/>
    </fault>
  </operation>

  <operation name="cellsConstraintsSatisfied">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303# cellsConstraintsSatisfied "/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="cellsConstraintsSatisfiedFault">
      <soap:fault name="cellsConstraintsSatisfiedFault" use="literal"/>
    </fault>
  </operation>

</binding>

<!------->
<!-- LC IRP service definitions (IRP Agent in LC, scenario 2) ----->
<!------->

<service name="LCIRPLCService">

  <port name="LCIRPLCRPort" binding="LCIRPLCRSystem:LCIRPLCRBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>

  <port name="LCIRPLCPort" binding="LCIRPLCSystem:LCIRPLCBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>

</service>

</definitions>

```

## B.3.7 WSDL specification "LCIRPNMSystem.wsdl" (scenario 2)

```

<?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:LCIRPNMSystem="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPNMSystem"
  xmlns:LCIRPLNMDData="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLNMDData"

  targetNamespace="http://www.3gpp.org/ftp/specs/archive/32_series/28.303#LCIRPLCSystem">
  <!------->
  <!-- Type definitions ----->
  <!------->

  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRPLNMDData"
      xmlns="http://www.w3.org/2001/XMLSchema">

      <complexType name = "cellConstraintsType">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <sequence>
                <element name="cellId" type="string"/>
                <element name="maxAllowedEIRP" type="integer"/>
                <element name="maxLeadTime" type="integer"/>
              </sequence>
            </complexType>
          </element>
        </sequence>
      </complexType>
    </types>

```

```

<complexType name="cellsConstraintsType">
  <sequence minOccurs="0" maxOccurs="unbounded">
    <element name="cellConstraints" type="cellConstraintsType"/>
  </sequence>
</complexType>

<element name="cellsConstraintsUpdateRequest">
  <complexType>
    <sequence>
      <element name="cellsConstraints" type="cellsConstraintsType"/>
    </sequence>
  </complexType>
</element>
<element name="cellsConstraintsUpdateResponse">
  <complexType>
    <sequence>
      </sequence>
  </complexType>
</element>
<element name="cellsConstraintsUpdateFault">
  <complexType>
    <choice>
      <element name="cause" type="integer"/>
    </choice>
  </complexType>
</element>

</schema>
</types>

<!------->
<!-- Message definitions -->
<!------->

<message name="cellsConstraintsUpdateRequest">
  <part name="parameter" element="LCIRPNMData:cellsConstraintsUpdateRequest"/>
</message>
<message name="cellsConstraintsUpdateResponse">
  <part name="parameter" element="LCIRPNMData:cellsConstraintsUpdateResponse"/>
</message>
<message name="cellsConstraintsUpdateFault">
  <part name="parameter" element="LCIRPNMData:cellsConstraintsUpdateFault"/>
</message>

<!------->
<!-- Port type definitions -->
<!------->

<portType name="LCIRPNMPortType">

  <operation name="cellsConstraintsUpdate">
    <input message="LCIRPNMSystem:cellsConstraintsUpdateRequest"/>
    <output message="LCIRPNMSystem:cellsConstraintsUpdateResponse"/>
    <fault name="getLSRAIConfirmationFault" message="LCIRPNMSystem:cellsConstraintsUpdateFault"/>
  </operation>

</portType>

<!------->
<!-- Bindings -->
<!------->

<binding name="LCIRPNMBinding" type="LCIRPNMSystem:LCIRPNMPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>

  <operation name="getLSRAIConfirmation">
    <soap:operation soapAction="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#cellsConstraintsUpdate"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="cellsConstraintsUpdateFault">
      <soap:fault name="cellsConstraintsUpdateFault" use="literal"/>
    </fault>
  </operation>

</binding>

<!------->
<!-- LC IRP service definitions (IRP Agent in NM, scenario 2 -->
<!------->

<service name="LCIRPNMService">

  <port name="LCIRPNMPort" binding="LCIRPNMSystem:LCIRPNMBinding">
    <soap:address location="http://www.3gpp.org/ftp/specs/archive/28_series/28.303#LCIRP"/>
  </port>

```

```
</service>  
</definitions>
```

---

## Annex C (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-06	SA#76	SP-170471				Presented for information and approval	1.0.0
2017-06	SA#76					Upgrade to change control version	14.0.0
2018-06	-	-	-	-	-	Update to Rel-15 version (MCC)	<b>15.0.0</b>

---

# History

<b>Document history</b>		
V15.0.0	July 2018	Publication