

# 3GPP TS 32.347 V9.0.0 (2009-12)

---

*Technical Specification*

**3rd Generation Partnership Project;  
Technical Specification Group Services and System Aspects;  
Telecommunication management;  
File Transfer (FT)  
Integration Reference Point (IRP):  
SOAP Solution Set (SS)  
(Release 9)**

---



The present document has been developed within the 3<sup>rd</sup> Generation Partnership Project (3GPP<sup>TM</sup>) and may be further elaborated for the purposes of 3GPP. The present document has not been subject to any approval process by the 3GPP Organizational Partners and shall not be implemented. This Specification is provided for future development work within 3GPP only. The Organizational Partners accept no liability for any use of this Specification. Specifications and reports for implementation of the 3GPP<sup>TM</sup> system should be obtained via the 3GPP Organizational Partners' Publications Offices.

---

Keywords

---

UMTS, management, SOAP

**3GPP**

Postal address

---

3GPP support office address

---

650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE  
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

---

<http://www.3gpp.org>

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© 2009, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TTA, TTC).  
All rights reserved.

UMTS™ is a Trade Mark of ETSI registered for the benefit of its members  
3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners  
LTE™ is a Trade Mark of ETSI currently being registered for the benefit of its Members and of the 3GPP Organizational Partners  
GSM® and the GSM logo are registered and owned by the GSM Association

---

# Contents

|   |           |
|---|-----------|
| Foreword .....  | 4         |
| Introduction .....  | 4         |
| 1 Scope .....   | 5         |
| 2 References.....   | 5         |
| 3 Definitions and abbreviations .....                     | 6         |
| 3.1 Definitions .....                                     | 6         |
| 3.2 Abbreviations.....                                    | 6         |
| 4 Architectural features.....                             | 6         |
| 4.1 General .....   | 6         |
| 5 Mapping.....  | 7         |
| 5.1 Operation and notification mapping .....              | 7         |
| 5.2 Operation parameter mapping .....                     | 8         |
| 5.2.1 Operation <code>listAvailableFiles</code> .....     | 8         |
| 5.2.1.1 Input parameters.....                             | 8         |
| 5.2.1.2 Output parameters.....                            | 8         |
| 5.2.1.3 Fault definition .....                            | 8         |
| 5.2.2 Operation <code>fileDownloadIndication</code> ..... | 8         |
| 5.2.2.1 Input parameters.....                             | 8         |
| 5.2.2.2 Output parameters.....                            | 9         |
| 5.2.2.3 Fault definition .....                            | 9         |
| <b>Annex A (normative): WSDL specifications.....</b>      | <b>10</b> |
| <b>Annex B (informative): Void.....</b>                   | <b>13</b> |
| <b>Annex C (informative): Change history.....</b>         | <b>14</b> |

---

## Foreword

This Technical Specification (TS) has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

---

## Introduction

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

- 32.341: "File Transfer (FT) Integration Reference Point (IRP): Requirements"
- 32.342: "File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)"
- 32.343: "File Transfer (FT) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)"
- 32.345: "File Transfer (FT) Integration Reference Point (IRP): eXtensible Markup Language (XML) definitions"
- 32.347: "File Transfer (FT) Integration Reference Point (IRP): SOAP Solution Set (SS)"**

The present document is part of a TS-family which describe the requirements and information model necessary for the Telecommunication Management (TM) of 3G systems. The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

Network Elements (NEs) under management, element managers as well as network managers generate various management information stored in file format. This IRP is addressing how these files are exchanged through Itf-N as well as certain aspects of file management and maintenance. It is anticipated that management functions (e.g. PM, Call Trace, CM) make reuse of capabilities provided by this File Transfer IRP.

---

# 1 Scope

The present document specifies the SOAP Solution Set for the IRP whose semantics are specified in File Transfer IRP: Information Service (3GPP TS 32.342 [4]).

This Solution Set specification is related to 3GPP TS 32.342 V9.0.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.) 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 32.341: " Technical Specification Group Services and System Aspects; Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Requirements ".
- [4] 3GPP TS 32.342: " Technical Specification Group Services and System Aspects; Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): Information Service (IS)".
- [5] 3GPP TS 32.345: " Telecommunication management; File Transfer (FT) Integration Reference Point (IRP): eXtensible Markup Language (XML) definitions ".
- [6] 3GPP TS 32.311: "Telecommunication management; Generic Integration Reference Point (IRP) management; Requirements".
- [7] 3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management; Information Service (IS)".
- [8] 3GPP TS 32.317: "Telecommunication management; Generic Integration Reference Point (IRP) management; SOAP solution set".
- [9] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".
- [10] 3GPP TS 32.307: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): SOAP solution set".
- [11] W3C SOAP 1.1 specification (<http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>)
- [12] W3C XPath 1.0 specification (<http://www.w3.org/TR/1999/REC-xpath-19991116>)
- [13] W3C WSDL 1.1 specification (<http://www.w3.org/TR/2001/NOTE-wsdl-20010315>)
- [14] W3C SOAP 1.2 specification (<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 TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.150 [9] and 3GPP TS 32.341 [3] and the following apply:

**IRP document version number string (or "IRPVersion"):** See 3GPP TS 32.311 [6].

### 3.2 Abbreviations

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

|      |                                  |
|------|----------------------------------|
| IS   | Information Service              |
| SS   | Solution Set                     |
| WSDL | Web Service Description Language |

## 4 Architectural features

### 4.1 General

The overall architectural feature of the File Transfer (FT) IRP is specified in 3GPP TS 32.342 [4]. This clause specifies features that are specific to the SOAP solution set.

The SOAP 1.1 specification [11] and WSDL 1.1 specification [13] are supported.

The SOAP 1.2 specification [14] is supported optionally.

This specification uses "document" style in WSDL file.

This specification uses "literal" encoding style in WSDL file.

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.

The FT IRP SOAP SS uses the Notification IRP SOAP SS of 3GPP TS 32.307 [10]. The IRPAgent shall support the push interface model, which means that the IRPAgent sends FT notifications to the IRPManager as soon as new events occur. The IRPManager does not need to check ("pull") for events.

Relevant definitions are imported from the FT IRP XML definitions of 3GPP TS 32.345 [5].

This specification uses a number of namespace prefixes throughout that are listed in Table 4.1.

**Table 4.1: Prefixes and Namespaces used in this specification**

| PREFIX           | NAMESPACE   |
|------------------|---|
| (no prefix)      | http://schemas.xmlsoap.org/wsdl/  |
| soap             | http://schemas.xmlsoap.org/wsdl/soap/   |
| ftIRPSystem      | http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPSystem  |
| ftIRPData        | http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPData  |
| xfi              | http://www.3gpp.org/ftp/specs/archive/32_series/32.345#ftIRPIOCs  |
| genericIRPSystem | http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-810/GenericIRPSystem                      |
| ntfIRPNtfSystem  | http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-810/notification/NotificationIRPNtfSystem |

The WSDL structure is depicted in Figure 4.1 below, depicting port type, binding and service. The port type contains port type operations, which again contains input, output and fault messages. The binding contains binding operations, which have the same name as the port type operations. The binding connects to a port inside the service.

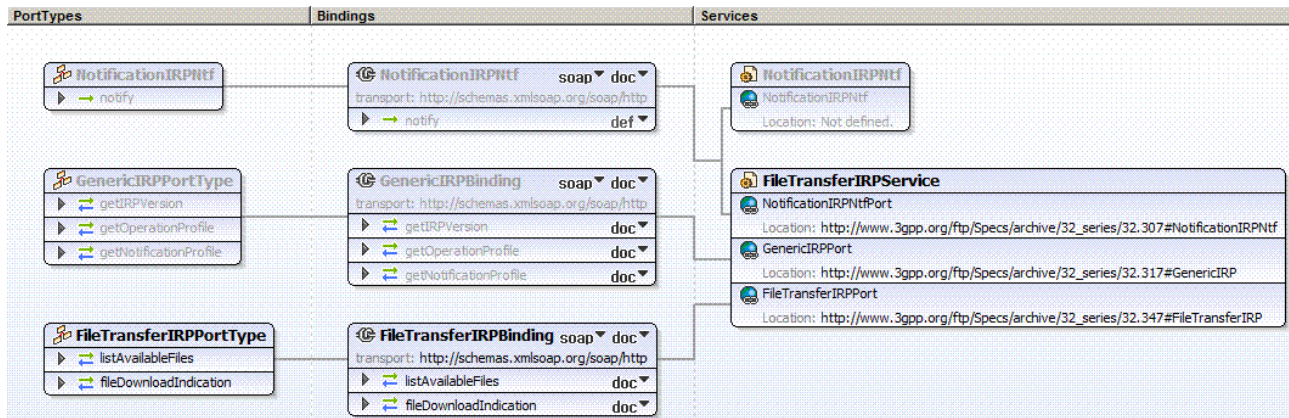


Figure 4.1: File Transfer IRP SOAP Solution Set WSDL structure

## 5 Mapping

### 5.1 Operation and notification mapping

The FT IRP IS (3GPP TS 32.342 [4]) defines the operations and their semantics.

Table 5.1 maps the operations defined in the FT IRP IS to their equivalent port type and binding operations in this Solution Set (SS).

Table 5.1 also maps the notifications of the FT IRP IS, as well as inherited operations.

Table 5.1 also qualifies if an operation is Mandatory (M) or Optional (O).

Table 5.1: Mapping from IS Operation to SS Equivalents

| IS Operation in 3GPP TS 32.342 [4]   | SS: Operation for WSDL port type and WSDL binding | SS: Port of FileTransferIRPService | Qualifier |
|--|---|------------------------------------|-----------|
| listAvailableFiles   | listAvailableFiles (note 1)                       | FileTransferIRPPort                | M         |
| fileDownloadIndication   | fileDownloadIndication (note 1)                   | FileTransferIRPPort                | O         |
| notifyFileReady  | notify (note 2)                                   | NotificationIRPNtfPort             | M         |
| notifyFilePreparationError   | notify (note 2)                                   | NotificationIRPNtfPort             | M         |
| getIRPVersion (note 3)   | See TS 32.317 [8]                                 | GenericIRPPort                     | M         |
| getOperationProfile (note 3)   | See TS 32.317 [8]                                 | GenericIRPPort                     | O         |
| getNotificationProfile (note 3)  | See TS 32.317 [8]                                 | GenericIRPPort                     | O         |
| NOTE 1: The operation is under the port type ftIRPSystem:FileTransferIRPPortType and under the binding ftIRPSystem:FileTransferIRPBinding.   |   |                                    |           |
| NOTE 2: The IS equivalent maps to an XML definition specified in 3GPP TS 32.345 [5], and this being an input parameter to the operation notify under the port type ntfIRPNtfSystem:NotificationIRPNtf and under the binding ntfIRPNtfSystem:NotificationIRPNtf of 3GPP TS 32.307 [10]. This binding is linked to a port of the FileTransferIRPService as indicated in the table above. |   |                                    |           |
| NOTE 3: The IS operation is inherited from the ManagedGenericIRP IOC specified in 3GPP TS 32.312 [7]. This inheritance is by the FileTransferIRP IOC of 3GPP TS 32.342 [4] inheriting from the ManagedGenericIRP IOC. The corresponding binding is linked to a port of the FileTransferIRPService as indicated in the table above.   |   |                                    |           |

## 5.2 Operation parameter mapping

The FT IRP IS (3GPP TS 32.342 [4]) defines semantics of parameters carried in the operations. The tables below show the mapping of these parameters, as per operation, to their equivalents defined in this SS.

### 5.2.1 Operation `listAvailableFiles`

#### 5.2.1.1 Input parameters

**Table 5.2.1.1: Mapping from IS `listAvailableFiles` input parameters to SS equivalents**

| IS Operation parameter          | SS WSDL type sub-element used in corresponding input message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|---------------------------------|--|-----------|
| <code>managementDataType</code> | <code>managementDataType</code>  | M         |
| <code>beginTime</code>          | <code>beginTime</code>   | M         |
| <code>endTime</code>            | <code>endTime</code>   | M         |

#### 5.2.1.2 Output parameters

**Table 5.2.1.2: Mapping from IS `listAvailableFiles` output parameters to SS equivalents**

| IS Operation parameter    | SS WSDL type sub-element used in corresponding output message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|---------------------------|---|-----------|
| <code>fileInfoList</code> | <code>fileInfoList</code>   | M         |
| <code>status</code>       | <code>status</code>   | M         |

#### 5.2.1.3 Fault definition

**Table 5.2.1.3: Mapping from IS `listAvailableFiles` exceptions to SS equivalents**

| Assertion name            | SS WSDL type enumeration value used in corresponding fault message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|---------------------------|--|-----------|
| <code>invalidTimes</code> | <code>InvalidTimes</code>  | M         |

## 5.2.2 Operation `fileDownloadIndication`

### 5.2.2.1 Input parameters

**Table 5.2.2.1: Mapping from IS `fileDownloadIndication` input parameters to SS equivalents**

| IS Operation parameter    | SS WSDL type sub-element used in corresponding input message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|---------------------------|--|-----------|
| <code>fileInfoList</code> | <code>fileInfoList</code>  | M         |



## 5.2.2.2 Output parameters

**Table 5.2.2.2: Mapping from IS `fileDownloadIndication` output parameters to SS equivalents**

| IS Operation parameter | SS WSDL type sub-element used in corresponding output message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|------------------------|---|-----------|
| status                 | status  | M         |

## 5.2.2.3 Fault definition

**Table 5.2.2.3: Mapping from IS `fileDownloadIndication` exceptions to SS equivalents**

| Assertion name      | SS WSDL type enumeration value used in corresponding fault message under corresponding port type operation as indicated in Table 5.1 | Qualifier |
|---------------------|--|-----------|
| InvalidFileInfoList | InvalidFileInfoList  | M         |

## Annex A (normative): WSDL specifications

```

<?xml version="1.0" encoding="UTF-8"?>
<!--
  3GPP TS 32.347 File Transfer (FT) IRP SOAP Solution Set
-->
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:fTIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPSystem"
  xmlns:fTIRPData="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPData"
  xmlns:xfi="http://www.3gpp.org/ftp/Specs/archive/32_series/32.345#FTIRPIOCs"
  xmlns:genericIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-810/GenericIRPSystem"
  xmlns:ntfIRPntfSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-810/notification/NotificationIRPntfSystem"
  targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPSystem">
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-810/notification/NotificationIRPntfSystem"
    location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-810-wsdl.zip"/>
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-810/GenericIRPSystem" location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-810-wsdl.zip"/>
  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FTIRPData"
      xmlns="http://www.w3.org/2001/XMLSchema">
      <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.345#FTIRPIOCs"/>
      <!-- The following types are defined for the File Transfer IRP operations -->
      <simpleType name="OperationStatusTwo">
        <restriction base="string">
          <enumeration value="OperationSucceeded"/>
          <enumeration value="OperationFailed"/>
        </restriction>
      </simpleType>
      <complexType name="FileInfo">
        <sequence>
          <element ref="xfi:fileLocation"/>
          <element ref="xfi:fileSize"/>
          <element ref="xfi:fileReadyTime"/>
          <element ref="xfi:fileExpirationTime"/>
          <element ref="xfi:fileCompression"/>
          <element ref="xfi:fileFormat"/>
        </sequence>
      </complexType>
      <complexType name="FileInfoList">
        <sequence>
          <element name="fileInfo" type="fTIRPData:FileInfo" minOccurs="0"
            maxOccurs="unbounded"/>
        </sequence>
      </complexType>
      <!-- listAvailableFiles Request -->
      <element name="listAvailableFiles">
        <complexType>
          <sequence>
            <element ref="xfi:managementDataType"/>
            <element name="beginTime" type="dateTime" minOccurs="0"/>
            <element name="endTime" type="dateTime" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- listAvailableFiles Response -->
      <element name="listAvailableFilesResponse">
        <complexType>
          <sequence>
            <element name="fileInfoList" type="fTIRPData:FileInfoList"/>
            <element name="status" type="fTIRPData:OperationStatusTwo"/>
          </sequence>
        </complexType>
      </element>
      <!-- listAvailableFiles Fault -->
      <element name="listAvailableFilesFault">
        <simpleType>
          <restriction base="string">
            <enumeration value="InvalidTimes"/>
          </restriction>
        </simpleType>
      </element>
    </schema>
  </types>

```

```

        </restriction>
      </simpleType>
    </element>
    <!-- fileDownloadIndication Request -->
    <element name="fileDownloadIndication">
      <complexType>
        <sequence>
          <element name="fileInfoList" type="fTIRPData:FileInfoList"/>
        </sequence>
      </complexType>
    </element>
    <!-- fileDownloadIndication Response -->
    <element name="fileDownloadIndicationResponse">
      <complexType>
        <sequence>
          <element name="status" type="fTIRPData:OperationStatusTwo"/>
        </sequence>
      </complexType>
    </element>
    <!-- fileDownloadIndication Fault -->
    <element name="fileDownloadIndicationFault">
      <simpleType>
        <restriction base="string">
          <enumeration value="InvalidFileInfoList"/>
        </restriction>
      </simpleType>
    </element>
  </schema>
</types>
<message name="listAvailableFiles">
  <part name="parameter" element="fTIRPData:listAvailableFiles"/>
</message>
<message name="listAvailableFilesResponse">
  <part name="parameter" element="fTIRPData:listAvailableFilesResponse"/>
</message>
<message name="listAvailableFilesFault">
  <part name="parameter" element="fTIRPData:listAvailableFilesFault"/>
</message>
<message name="fileDownloadIndication">
  <part name="parameter" element="fTIRPData:fileDownloadIndication"/>
</message>
<message name="fileDownloadIndicationResponse">
  <part name="parameter" element="fTIRPData:fileDownloadIndicationResponse"/>
</message>
<message name="fileDownloadIndicationFault">
  <part name="parameter" element="fTIRPData:fileDownloadIndicationFault"/>
</message>
<portType name="FileTransferIRPPortType">
  <operation name="listAvailableFiles">
    <input message="fTIRPSystem:listAvailableFiles"/>
    <output message="fTIRPSystem:listAvailableFilesResponse"/>
    <fault name="listAvailableFilesFault" message="fTIRPSystem:listAvailableFilesFault"/>
  </operation>
  <operation name="fileDownloadIndication">
    <input message="fTIRPSystem:fileDownloadIndication"/>
    <output message="fTIRPSystem:fileDownloadIndicationResponse"/>
    <fault name="fileDownloadIndicationFault"
message="fTIRPSystem:fileDownloadIndicationFault"/>
  </operation>
</portType>
<binding name="FileTransferIRPBinding" type="fTIRPSystem:FileTransferIRPPortType">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="listAvailableFiles">
    <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#listAvailableFiles"
style="document"/>
    <input>
      <soap:body use="literal"/>
    </input>
    <output>
      <soap:body use="literal"/>
    </output>
    <fault name="listAvailableFilesFault">
      <soap:fault name="listAvailableFilesFault" use="literal"/>
    </fault>
  </operation>
</operation name="fileDownloadIndication">

```

```
<soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#fileDownloadIndication"
style="document"/>
  <input>
    <soap:body use="literal"/>
  </input>
  <output>
    <soap:body use="literal"/>
  </output>
  <fault name="fileDownloadIndicationFault">
    <soap:fault name="fileDownloadIndicationFault" use="literal"/>
  </fault>
</operation>
</binding>
<service name="FileTransferIRPService">
  <port name="FileTransferIRPPort" binding="fTIRPSsystem:FileTransferIRPBinding">
    <soap:address
location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.347#FileTransferIRP"/>
  </port>
  <port name="GenericIRPPort" binding="genericIRPSystem:GenericIRPBinding">
    <soap:address
location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317#GenericIRP"/>
  </port>
  <port name="NotificationIRPNtfPort" binding="ntfIRPNtfSystem:NotificationIRPNtf">
    <soap:address
location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307#NotificationIRPNtf"/>
  </port>
</service>
</definitions>
```

Annex B (informative):  
Void

---

## Annex C (informative): Change history

| Change history |       |           |      |    |   |     |       |       |
|----------------|-------|-----------|------|----|---|-----|-------|-------|
| Date           | TSG # | TSG Doc.  | CR   | R  | Subject/Comment   | Cat | Old   | New   |
| March 2009     | SA_43 | SP-090060 | --   | -- | Presentation to SA for information and approval               | --  | 1.0.0 | 8.0.0 |
| Dec 2009       | SA_46 | SP-090719 | 0001 | -- | Discontinuation of the maintenance of WSDL/XML schema folders | F   | 8.0.0 | 9.0.0 |
|                |       |           |      |    |   |     |       |       |
|                |       |           |      |    |   |     |       |       |