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**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects;
Telecommunication management;
Partial Suspension of Itf-N Integration Reference Point (IRP);
SOAP Solution Set (SS)
(Release 9)**

Keywords

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Contents

Foreword

This Technical Specification has been produced by the 3rd 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 multi-part TS covering the 3rd Generation Partnership Project: Technical Specification Group Services and System Aspects; Telecommunication Management; Partial Suspension of Itf-N Integration Reference Point (IRP), as identified below:

32.381: "Partial Suspension of Itf-N Integration Reference Point (IRP); Requirements".

32.382: "Partial Suspension of Itf-N Integration Reference Point (IRP); Information Service (IS)".

32.383: "Partial Suspension of Itf-N Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

32.385: Partial Suspension of Itf-N Integration Reference Point (IRP); eXtensible Markup Language (XML) definitions.

32.387: "Partial Suspension of Itf-N Integration Reference Point (IRP); SOAP Solution Set (SS)".

The present document describes the requirements and information model necessary for Telecommunication Management (TM). The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

Information of an event is carried in notification. An IRPAgent (typically an EM or a NE) emits notifications (see 3GPP TS 32.302 [13]. IRPManager (typically a network management system) receives notifications. In certain scenarios floods of unwanted notifications including alarms will be sent to the IRP manager by network object instances. Thereby the interface and the management systems bear unnecessary load. Even worse: The operator's awareness is drawn away from really urgent events.

1 Scope

The present document specifies the SOAP SS for the IRP whose semantics is specified Partial Suspension of Itf-N IRP IS (3GPP TS 32.382 [5]).

This Solution Set specification is related to 3GPP TS 32.382 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.) 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 32.101: "Telecommunication management; Principles and high level requirements".

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

[4]   3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".

[5]   3GPP TS 32.382: "Telecommunication management; Partial Suspension of Itf-N Integration Reference Point (IRP); Information Service (IS)".

[6]   3GPP TS 32.385: "Telecommunication management; Partial Suspension of Itf-N Integration Reference Point (IRP); eXtensible Markup Language (XML) file format definition".

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

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

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

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

[11]   3GPP TS 32.307: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): SOAP solution set".

[12]   3GPP TS 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management; Information Service (IS)"

[13]   3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1], 3GPP TS 32.101 [2], 3GPP TS 32.102 [3], 3GPP TS 32.150 [4], 3GPP TS 32.382 [5] apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

Suspended notification: See 3GPP TS 32.382 [5].

Itf-N suspended managed instance: See 3GPP TS 32.382 [5].

Partial suspension of Itf-N: See 3GPP TS 32.382 [5].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1], in 3GPP TS 32.101 [2], 3GPP TS 32.102 [3], 3GPP TS 32.150 [4], and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1].

EM	Element Manager
FT	File Transfer
NE	Network Element
NM	Network Manager
UML	Unified Modelling Language

4 Architectural features

4.1 General

The overall architectural feature of Partial Suspension of Itf-N IRP is specified in 3GPP TS 32.382 [5]. This clause specifies features that are specific to the SOAP solution set.

The SOAP 1.1 specification [7] and WSDL 1.1 specification [9] are supported.

The SOAP 1.2 specification [10] 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 [8]). IRPAgents may throw a FilterComplexityLimit fault when a given filter is too complex.
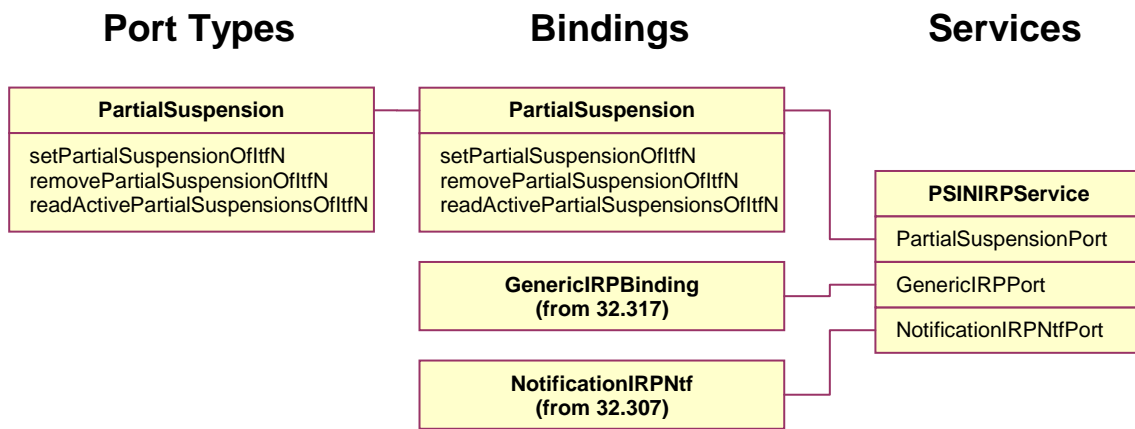
Relevant definitions are imported from the of Partial Suspension of Itf-N IRP XML definitions of 3GPP TS 32.385 [6].

This specification uses a number of namespace prefixes throughout that are listed in Table 4.1. 1.

Table 4.1.1: Prefixes and Namespaces used in this specification

PREFIX	NAMESPACE
(no prefix)	http://schemas.xmlsoap.org/wsdl/
soap	http://schemas.xmlsoap.org/wsdl/soap/
pSINIRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPSystem
pSINIRPData	http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPData
pSIN	http://www.3gpp.org/ftp/specs/archive/32_series/32.385#partialSuspensionOfItfN
nk	http://www.3gpp.org/ftp/specs/archive/32_series/32.665#kernelNtf
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 4.1.1 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 4.1.1: Partial Suspension of Itf-N Integration Reference Point (IRP) SOAP Solution Set WSDL structure

5 Mapping

5.1 Operation and notification mapping

The Partial Suspension of Itf-N Integration Reference Point (IRP) IS (3GPP TS 32.382 [5]) defines semantics of operation and notification visible across the Itf-N. Table 5.1.1 indicates mapping of these operations and notifications to their equivalents defined in this SS.

Table 5.1.1: Mapping from IS Operation to SS Equivalents

IS Operations in 3GPP TS 32.382 [5]	SS Operations	SS Port	Qualifier
setPartialSuspensionOfItfN	setPartialSuspensionOfItfN	PartialSuspensionPort	M
removePartialSuspensionOfItfN	removePartialSuspensionOfItfN	PartialSuspensionPort	M
readActivePartialSuspensionsOfItfN	readActivePartialSuspensionsOfItfN	PartialSuspensionPort	O
notifyChangeOfPartialSuspensionOfItfN	notify (note 1)	NotificationIRPNtfPort	M
NOTE 1: The IS equivalent maps to an XML definition specified in 3GPP TS 32.385 [6], 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 [11].			

5.2 Operation parameter mapping

The Partial Suspension of Itf-N Integration Reference Point (IRP) IS (3GPP TS 32.382 [5]) 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.

Table 5.2.1: Mapping from IS `setPartialSuspensionOfItfN` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
managerReference	managerReference	M
baseMOInstance	baseMOInstance	O
scope	scope	CM
partialSuspensionId	partialSuspensionId	CM
conflictingPartialSuspensionList	conflictingPartialSuspensionList	CM
activationTime	activationTime	O
status	status	M

Table 5.2.2: Mapping from IS `removePartialSuspensionOfItfN` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
managerReference	managerReference	M
partialSuspensionId	partialSuspensionId	M
status	status	M

Table 5.2.3: Mapping from IS `readActivePartialSuspensionsOfItfN` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
activePartialSuspensionList	activePartialSuspensionList	CM
status	status	M

5.3 Notification parameter mapping

The Partial Suspension of Itf-N Integration Reference Point (IRP) Notifications are defined in 32.385 [6].

Annex A (normative): WSDL specifications

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
   3GPP TS 32.387 Partial Suspension of Itf-N IRP SOAP Solution Set
-->
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:pSINIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPSystem"
xmlns:pSINIRPData="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPData"
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"
xmlns:pSIN="http://www.3gpp.org/ftp/specs/archive/32 series/32.385#partialSuspensionOfItfN"
targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPSystem">
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.317/schema/32317-
810/GenericIRPSystem"/>
  <import namespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.307/schema/32307-
810/notification/NotificationIRPNtfSystem"/>
  <types>
    <schema targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRPData"
xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:nk="http://www.3gpp.org/ftp/specs/archive/32_series/32.665#kernelNtf">
      <!-- partialSuspensionList Type -->
      <complexType name="partialSuspensionList">
        <sequence maxOccurs="unbounded">
          <element name="partialSuspensionId" type="pSIN:PartialSuspensionId"/>
          <element name="partialSuspensionParameter" minOccurs="0" maxOccurs="unbounded">
            <complexType>
              <sequence>
                <element name="baseObjectInstance" type="string" minOccurs="0"/>
                <element name="scope" type="nk:ScopeType" minOccurs="0"/>
                <element name="activationTime" type="dateTime" minOccurs="0"/>
              </sequence>
            </complexType>
          </element>
        </sequence>
      </complexType>
      <!-- setPartialSuspensionOfItfN Request -->
      <element name="setPartialSuspensionOfItfNRequest">
        <complexType>
          <sequence>
            <element name="managerReference" type="string"/>
            <element name="baseMOInstance" type="string" minOccurs="0"/>
            <element name="scope" type="nk:ScopeType" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- setPartialSuspensionOfItfN Response -->
      <element name="setPartialSuspensionOfItfNResponse">
        <complexType>
          <sequence>
            <element name="partialSuspensionId" type="pSIN:PartialSuspensionId" minOccurs="0"/>
            <element name="conflictingPartialSuspensionList"
type="pSINIRPData:partialSuspensionList" minOccurs="0"/>
            <element name="activationTime" type="dateTime" minOccurs="0"/>
            <element name="status">
              <simpleType>
                <restriction base="string">
                  <enumeration value="Success"/>
                  <enumeration value="Failure"/>
                </restriction>
              </simpleType>
            </element>
            <element name="failureReason" minOccurs="0">
              <simpleType>
                <restriction base="string">
                  <enumeration value="operation_failed"/>
                  <enumeration value="operation_failed_invalid_input_parameter"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_baseMOInstance"/>
                  <enumeration value="operation_failed_unsupported_optional_input_parameter_scope"/>
```

```
                    <enumeration value="operation_failed_internal_problem"/>
                </restriction>
            </simpleType>
        </element>
    </sequence>
  </complexType>
</element>
<!-- setPartialSuspensionOfItfN Fault -->
<element name="setPartialSuspensionOfItfNFault">
  <simpleType>
    <restriction base="string">
      <enumeration value="OperationFailed"/>
    </restriction>
  </simpleType>
</element>
<!-- removePartialSuspensionOfItfN Request -->
<element name="removePartialSuspensionOfItfNRequest">
  <complexType>
    <sequence>
      <element name="managerReference" type="string"/>
      <element name="partialSuspensionId" type="pSIN:PartialSuspensionId"/>
    </sequence>
  </complexType>
</element>
<!-- removePartialSuspensionOfItfN Response -->
<element name="removePartialSuspensionOfItfNResponse">
  <complexType>
    <sequence>
      <element name="status">
        <simpleType>
          <restriction base="string">
            <enumeration value="Success"/>
            <enumeration value="Failure"/>
          </restriction>
        </simpleType>
      </element>
    </sequence>
  </complexType>
</element>
<!-- removePartialSuspensionOfItfN Fault -->
<element name="removePartialSuspensionOfItfNFault">
  <simpleType>
    <restriction base="string">
      <enumeration value="OperationFailed"/>
    </restriction>
  </simpleType>
</element>
<!-- readActivePartialSuspensionsOfItfN Request -->
<element name="readActivePartialSuspensionsOfItfNRequest">
</element>
<!-- readActivePartialSuspensionsOfItfN Response -->
<element name="readActivePartialSuspensionsOfItfNResponse">
  <complexType>
    <sequence>
      <element name="activePartialSuspensionList" type="pSINIRPData:partialSuspensionList"
minOccurs="0"/>
      <element name="status">
        <simpleType>
          <restriction base="string">
            <enumeration value="Success"/>
            <enumeration value="Failure"/>
          </restriction>
        </simpleType>
      </element>
    </sequence>
  </complexType>
</element>
<!-- readActivePartialSuspensionsOfItfN Fault -->
<element name="readActivePartialSuspensionsOfItfNFault">
  <simpleType>
    <restriction base="string">
      <enumeration value="OperationFailed"/>
    </restriction>
  </simpleType>
</element>
</schema>
</types>
<message name="setPartialSuspensionOfItfNRequest">
```

```
        <part name="parameter" element="pSINIRPData:setPartialSuspensionOfItfNRequest"/>
      </message>
      <message name="setPartialSuspensionOfItfNResponse">
        <part name="parameter" element="pSINIRPData:setPartialSuspensionOfItfNResponse"/>
      </message>
      <message name="setPartialSuspensionOfItfNFault">
        <part name="parameter" element="pSINIRPData:setPartialSuspensionOfItfNFault"/>
      </message>
      <message name="removePartialSuspensionOfItfNRequest">
        <part name="parameter" element="pSINIRPData:removePartialSuspensionOfItfNRequest"/>
      </message>
      <message name="removePartialSuspensionOfItfNResponse">
        <part name="parameter" element="pSINIRPData:removePartialSuspensionOfItfNResponse"/>
      </message>
      <message name="removePartialSuspensionOfItfNFault">
        <part name="parameter" element="pSINIRPData:removePartialSuspensionOfItfNFault"/>
      </message>
      <message name="readActivePartialSuspensionsOfItfNRequest">
        <part name="parameter" element="pSINIRPData:readActivePartialSuspensionsOfItfNRequest"/>
      </message>
      <message name="readActivePartialSuspensionsOfItfNResponse">
        <part name="parameter" element="pSINIRPData:readActivePartialSuspensionsOfItfNResponse"/>
      </message>
      <message name="readActivePartialSuspensionsOfItfNFault">
        <part name="parameter" element="pSINIRPData:readActivePartialSuspensionsOfItfNFault"/>
      </message>
      <portType name="PartialSuspension">
        <operation name="setPartialSuspensionOfItfN">
          <input message="pSINIRPSystem:setPartialSuspensionOfItfNRequest"/>
          <output message="pSINIRPSystem:setPartialSuspensionOfItfNResponse"/>
          <fault name="setPartialSuspensionOfItfNFault"
message="pSINIRPSystem:setPartialSuspensionOfItfNFault"/>
        </operation>
        <operation name="removePartialSuspensionOfItfN">
          <input message="pSINIRPSystem:removePartialSuspensionOfItfNRequest"/>
          <output message="pSINIRPSystem:removePartialSuspensionOfItfNResponse"/>
          <fault name="removePartialSuspensionOfItfNFault"
message="pSINIRPSystem:removePartialSuspensionOfItfNFault"/>
        </operation>
        <operation name="readActivePartialSuspensionsOfItfN">
          <input message="pSINIRPSystem:readActivePartialSuspensionsOfItfNRequest"/>
          <output message="pSINIRPSystem:readActivePartialSuspensionsOfItfNResponse"/>
          <fault name="readActivePartialSuspensionsOfItfNFault"
message="pSINIRPSystem:readActivePartialSuspensionsOfItfNFault"/>
        </operation>
      </portType>
      <binding name="PartialSuspension" type="pSINIRPSystem:PartialSuspension">
        <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
        <operation name="setPartialSuspensionOfItfN">
          <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#setPartialSuspensionOfItfN"
style="document"/>
          <input>
            <soap:body use="literal"/>
          </input>
          <output>
            <soap:body use="literal"/>
          </output>
          <fault name="setPartialSuspensionOfItfNFault">
            <soap:fault name="setPartialSuspensionOfItfNFault" use="literal"/>
          </fault>
        </operation>
        <operation name="removePartialSuspensionOfItfN">
          <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#removePartialSuspensionOfItfN"
style="document"/>
          <input>
            <soap:body use="literal"/>
          </input>
          <output>
            <soap:body use="literal"/>
          </output>
          <fault name="removePartialSuspensionOfItfNFault">
            <soap:fault name="removePartialSuspensionOfItfNFault" use="literal"/>
          </fault>
        </operation>
        <operation name="readActivePartialSuspensionsOfItfN">
```

```
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#readActivePartialSuspensionsOfItf
N" style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="readActivePartialSuspensionsOfItfNFault">
        <soap:fault name="readActivePartialSuspensionsOfItfNFault" use="literal"/>
      </fault>
    </operation>
  </binding>
  <service name="PSINIRPService">
    <port name="PartialSuspensionPort" binding="pSINIRPSystem:PartialSuspension">
      <soap:address location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.387#PSINIRP"/>
    </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): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**R**	**Subject/Comment**	**Cat**	**Old**	**New**
2009-12	SA#46	SP-090729	--	--	Presentation to SA for Information	--	--	1.0.0
2010-03	SA#47	SP-100048	--	--	Presentation to SA for Approval	--	1.0.0	2.0.0
2010-03	--	--	--	--	Publication of SA approved version	--	2.0.0	9.0.0
2011-09	SA=53	SP-110525	0001	--	Correct syntax errors in WSDL specification	F	9.0.0	9.1.0