ETSI TS 132 337 V9.0.0 (2010-04)

Technical Specification

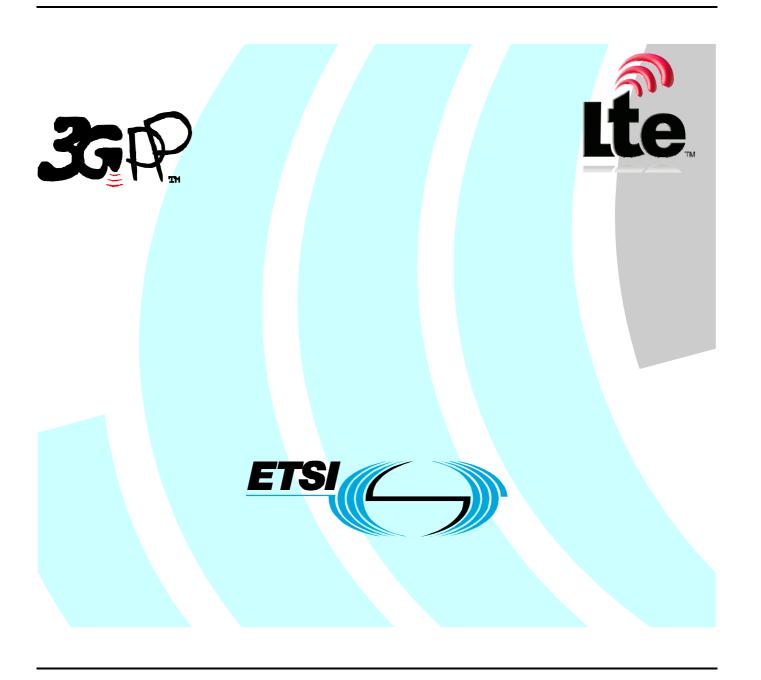# Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Notification Log (NL) Integration Reference Point (IRP); SOAP Solution Set (SS) (3GPP TS 32.337 version 9.0.0 Release 9)

Reference
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Foreword

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

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Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Test management Integration Reference Point (IRP), as identified below:

32.331 "Notification Log (NL) Integration Reference Point (IRP); Requirements".

32.332 "Notification Log (NL) Integration Reference Point (IRP); Information Service (IS)".

32.333 "Notification Log (NL) Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

32.335 "Notification Log (NL) Integration Reference Point (IRP); eXtensible Markup Language (XML) solution definitions".

32.337 "Notification Log (NL) 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].

A communications system is composed of a multitude of Network Elements (NE) of various types and, typically, different vendors, which inter-operate in a co-ordinated manner in order to satisfy the network users' communication requirements.

The occurrence of faults in an NE may cause deterioration or loss of this NE's function. Fault Management is the functional area, which allows the operator to detect the occurrence of faults in the network in real-time. Configuration Management and Performance Management are two more functional areas, which require the operator to be alerted to certain conditions in the network.

A standard general-purpose mechanism for the management of logs containing selected notifications from the network is required to provide an ability to perform historical analysis on faults and conditions, which occurred in the network. The TS 32.33x-series, constituting the Notification log IRP, sets forth such a mechanism - and the present document contains the IS definition.

1 Scope

The present document specifies the SOAP SS for the IRP whose semantics is specified in Notification Log (NL) IRP IS (3GPP TS 32.332 [5]).

This Solution Set specification is related to 3GPP TS 32.332 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 32.332: "Telecommunication management; Notification Log (NL) Integration Reference Point (IRP); Information Service (IS)".

[6]   3GPP TS 32.335: "Telecommunication management; Notification Log (NL) Integration Reference Point (IRP); eXtensible Markup Language (XML) solution definitions ".

[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)'

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 32.332 [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].

notification category: it refers to the set of notifications of one 3GPP IRP Information Service specification
A Notification Category is identified by the name of the IRP specification and the IRP specification version number.

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
NL	Notification Log
NLIRP	Notification Log Integration Reference Point
NM	Network Manager
UML	Unified Modelling Language

4 Architectural features

4.1 General

The overall architectural feature of the Notification Log (NL) IRP is specified in 3GPP TS 32.332 [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 Notification Log (NL) IRP XML definitions of 3GPP TS 32.335 [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/
nlIRPSystem	http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#NLRPSystem
nlIRPData	http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#NLIRPData
xl	http://www.3gpp.org/ftp/specs/archive/32_series/32.335#ntfLogIRPNotif
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.
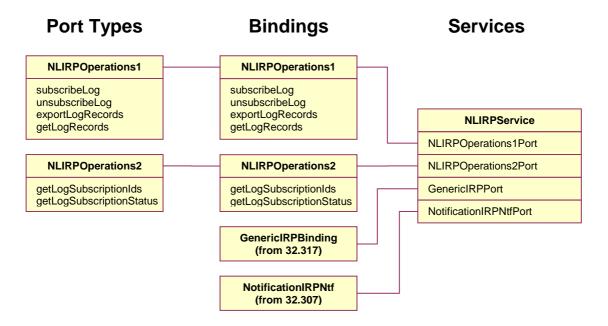
Port Types **Bindings** **Services**

Figure 4.1.1: Notification Log (NL) IRP SOAP Solution Set WSDL structure

5 Mapping

5.1 Operation and notification mapping

The Notification Log (NL) IRP IS (3GPP TS 32.332 [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 32.332 [5]	SS Operations	SS Port	Qualifier
subscribeLog	subscribeLog	NLIRPOperations1Port	M
unsubscribeLog	unsubscribeLog	NLIRPOperations1Port	M
exportLogRecords	exportLogRecords	NLIRPOperations1Port	O
getLogRecords	getLogRecords	NLIRPOperations1Port	O
getLogSubscriptionIds	getLogSubscriptionIds	NLIRPOperations2Port	O
getLogSubscriptionStatus	getLogSubscriptionStatus	NLIRPOperations2Port	M
notifyLogSubscribed	notify (note 1)	NotificationIRPNtfPort	M
notifyLogUnsubscribed	notify (note 1)	NotificationIRPNtfPort	M
notifyOccupancyLevelCrossed	notify (note 1)	NotificationIRPNtfPort	M
notifyLoggingResumed	notify (note 1)	NotificationIRPNtfPort	M
NOTE 1: The IS equivalent maps to an XML definition specified in 3GPP TS 32.335 [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 Notification Log (NL) IRP IS (3GPP TS 32.332 [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 `subscribeLog` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionId	logSubscriptionId	M
loggingEndTIme	loggingEndTIme	O
notificationCategories	notificationCategories	O
filter	filter	O
logManagerToken	logManagerToken	O
loggingEndTime	loggingEndTime	O
status	status	M

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

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionId	logSubscriptionId	M
logManagerToken	logManagerToken	O
status	status	M

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

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionId	logSubscriptionId	M
notificationCategories	notificationCategories	O
filter	filter	O
invocationId	invocationId	M
status	status	M

Table 5.2.4: Mapping from IS `getLogRecords` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionId	logSubscriptionId	M
notificationCategories	notificationCategories	O
filter	filter	O
getLogRecordsResult	getLogRecordsResult	M
status	status	M

Table 5.2.5: Mapping from IS `getLogSubscriptionIds` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionIds	logSubscriptionIds	M
status	status	M

Table 5.2.6: Mapping from IS `getLogSubscriptionStatus` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
logSubscriptionId	logSubscriptionId	M
logAttributeList	logAttributeList	M
status	status	M

5.3 Notification parameter mapping

The Notification Log (NL) IRP Notifications are defined in 32.335 [6].

Annex A (normative): WSDL specifications

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!--
   3GPP TS 32.337 Notification Log IRP SOAP Solution Set
-->
<definitions xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:nlIRPSystem="http://www.3gpp.org/ftp/Specs/archive/32_series/32.327#NLIRPSystem"
xmlns:nlIRPData="http://www.3gpp.org/ftp/Specs/archive/32_series/32.327#NLIRPData"
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:xl="http://www.3gpp.org/ftp/specs/archive/32_series/32.335#ntfLogIRPNotif"
targetNamespace="http://www.3gpp.org/ftp/Specs/archive/32_series/32.327#NLIRPSystem">
  <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/32.327#NLIRPData"
xmlns="http://www.w3.org/2001/XMLSchema">
      <import namespace="http://www.3gpp.org/ftp/specs/archive/32_series/32.335#ntfLogIRPNotif"/>
      <!-- loggingEndTime Type -->
      <complexType name="loggingEndTimeType">
        <choice>
          <element name="dateTime" type="dateTime"/>
          <element name="indefinite"/>
        </choice>
      </complexType>
      <!-- subscribeLog Request -->
      <element name="subscribeLogRequest">
        <complexType>
          <sequence>
            <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
            <element name="loggingEndTime" type="nlIRPData:loggingEndTimeType" minOccurs="0"/>
            <element name="notificationCategories" type="xl:NotificationCategories" minOccurs="0"/>
            <element name="filter" type="string" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- subscribeLog Response -->
      <element name="subscribeLogResponse">
        <complexType>
          <sequence>
            <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
            <element name="logManagerToken" type="string" minOccurs="0"/>
            <element name="loggingEndTime" type="nlIRPData:loggingEndTimeType" minOccurs="0"/>
            <element name="status">
              <simpleType>
                <restriction base="string">
                  <enumeration value="OperationSucceeded"/>
                  <enumeration value="OperationFailed"/>
                </restriction>
              </simpleType>
            </element>
            <element name="failureReason" minOccurs="0">
              <simpleType>
                <restriction base="string">
                  <enumeration value="logSubscriptionId_required"/>
                  <enumeration value="maxLogs_reached"/>
                  <enumeration value="operation_failed"/>
                  <enumeration value="operation_failed_invalid_input_parameter"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_loggingEndTime"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_notificationCategories"/>
                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_filter"/>
                  <enumeration value="operation_failed_internal_problem"/>
                </restriction>
              </simpleType>
```

```
            </element>
          </sequence>
        </complexType>
      </element>
      <!-- subscribeLog Fault -->
      <element name="subscribeLogFault">
        <simpleType>
          <restriction base="string">
            <enumeration value="OperationFailed"/>
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        </simpleType>
      </element>
      <!-- unsubscribeLog Request -->
      <element name="unsubscribeLogRequest">
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          <sequence>
            <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
            <element name="logManagerToken" type="string" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- unsubscribeLog Response -->
      <element name="unsubscribeLogResponse">
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          <sequence>
            <element name="status">
              <simpleType>
                <restriction base="string">
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              <simpleType>
                <restriction base="string">
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                  <enumeration
value="operation_failed_unsupported_optional_input_parameter_logManagerToken"/>
                  <enumeration value="operation_failed_internal_problem"/>
                </restriction>
              </simpleType>
            </element>
          </sequence>
        </complexType>
      </element>
      <!-- unsubscribeLog Fault -->
      <element name="unsubscribeLogFault">
        <simpleType>
          <restriction base="string">
            <enumeration value="OperationFailed"/>
          </restriction>
        </simpleType>
      </element>
      <!-- exportLogRecords Request -->
      <element name="exportLogRecordsRequest">
        <complexType>
          <sequence>
            <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
            <element name="notificationCategories" type="xl:NotificationCategories" minOccurs="0"/>
            <element name="filter" type="string" minOccurs="0"/>
          </sequence>
        </complexType>
      </element>
      <!-- exportLogRecords Response -->
      <element name="exportLogRecordsResponse">
        <complexType>
          <sequence>
            <element name="invocationId" type="string"/>
            <element name="status">
              <simpleType>
                <restriction base="string">
                  <enumeration value="OperationSucceeded"/>
                  <enumeration value="OperationFailed"/>
                </restriction>
              </simpleType>
            </element>
```

```
                <element name="failureReason" minOccurs="0">
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                    <restriction base="string">
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                      <enumeration value="operation_failed"/>
                      <enumeration value="operation_failed_invalid_input_parameter"/>
                      <enumeration
value="operation_failed_unsupported_optional_input_parameter_notificationCategories"/>
                      <enumeration
value="operation_failed_unsupported_optional_input_parameter_filter"/>
                      <enumeration value="operation_failed_internal_problem"/>
                    </restriction>
                  </simpleType>
                </element>
              </sequence>
            </complexType>
          </element>
          <!-- exportLogRecords Fault -->
          <element name="exportLogRecordsFault">
            <simpleType>
              <restriction base="string">
                <enumeration value="OperationFailed"/>
              </restriction>
            </simpleType>
          </element>
          <!-- getLogRecords Request -->
          <element name="getLogRecordsRequest">
            <complexType>
              <sequence>
                <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
                <element name="notificationCategories" type="xl:NotificationCategories" minOccurs="0"/>
                <element name="filter" type="string" minOccurs="0"/>
              </sequence>
            </complexType>
          </element>
          <!-- getLogRecords Response -->
          <element name="getLogRecordsResponse">
            <complexType>
              <sequence>
                <element name="getLogRecordsResult">
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value="operation_failed_unsupported_optional_input_parameter_notificationCategories"/>
                      <enumeration
value="operation_failed_unsupported_optional_input_parameter_filter"/>
                      <enumeration value="operation_failed_internal_problem"/>
                    </restriction>
                  </simpleType>
                </element>
              </sequence>
            </complexType>
          </element>
          <!-- getLogRecords Fault -->
```

```
          <element name="getLogRecordsFault">
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                <enumeration value="OperationFailed"/>
              </restriction>
            </simpleType>
          </element>
          <!-- getLogSubscriptionIds Request -->
          <element name="getLogSubscriptionIdsRequest">
            </element>
          <!-- getLogSubscriptionIds Response -->
          <element name="getLogSubscriptionIdsResponse">
            <complexType>
              <sequence>
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                  <complexType>
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maxOccurs="unbounded"/>
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                <element name="status">
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                      <enumeration value="OperationFailed"/>
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                  </simpleType>
                </element>
              </sequence>
            </complexType>
          </element>
          <!-- getLogSubscriptionIds Fault -->
          <element name="getLogSubscriptionIdsFault">
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              <restriction base="string">
                <enumeration value="OperationFailed"/>
              </restriction>
            </simpleType>
          </element>
          <!-- getLogSubscriptionStatus Request -->
          <element name="getLogSubscriptionStatusRequest">
            <complexType>
              <sequence>
                <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
              </sequence>
            </complexType>
          </element>
          <!-- getLogSubscriptionStatus Response -->
          <element name="getLogSubscriptionStatusResponse">
            <complexType>
              <sequence>
                <element name="logAttributeList">
                  <complexType>
                    <sequence>
                      <element name="logSubscriptionId" type="xl:LogSubscriptionId"/>
                      <element name="loggingEndTime" type="nlIRPData:loggingEndTimeType" minOccurs="0"/>
                      <element name="maxSize" type="nonNegativeInteger" minOccurs="0"/>
                      <element name="currentSize" type="nonNegativeInteger" minOccurs="0"/>
                      <element name="creationTime" type="dateTime" minOccurs="0"/>
                      <element name="logState">
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                            <enumeration value="logFull"/>
                            <enumeration value="stopped"/>
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                      <element name="filter" type="string" minOccurs="0"/>
                      <element name="logFullAction" type="xl:LogFullAction"/>
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```
                            <element name="level" type="nonNegativeInteger"/>
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                              <element name="level3" type="nonNegativeInteger"/>
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                      <enumeration value="OperationFailed"/>
                    </restriction>
                  </simpleType>
                </element>
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          <!-- getLogSubscriptionStatus Fault -->
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              <restriction base="string">
                <enumeration value="OperationFailed"/>
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            </simpleType>
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        <part name="parameter" element="nlIRPData:subscribeLogRequest"/>
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      <message name="subscribeLogResponse">
        <part name="parameter" element="nlIRPData:subscribeLogResponse"/>
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      <message name="subscribeLogFault">
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      <message name="unsubscribeLogFault">
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        <part name="parameter" element="nlIRPData:exportLogRecordsFault"/>
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      <message name="getLogRecordsRequest">
        <part name="parameter" element="nlIRPData:getLogRecordsRequest"/>
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      <message name="getLogRecordsResponse">
        <part name="parameter" element="nlIRPData:getLogRecordsResponse"/>
      </message>
      <message name="getLogRecordsFault">
        <part name="parameter" element="nlIRPData:getLogRecordsFault"/>
      </message>
      <message name="getLogSubscriptionIdsRequest">
        <part name="parameter" element="nlIRPData:getLogSubscriptionIdsRequest"/>
      </message>
      <message name="getLogSubscriptionIdsResponse">
        <part name="parameter" element="nlIRPData:getLogSubscriptionIdsResponse"/>
      </message>
      <message name="getLogSubscriptionIdsFault">
        <part name="parameter" element="nlIRPData:getLogSubscriptionIdsFault"/>
      </message>
```

```xml
  <message name="getLogSubscriptionStatusRequest">
    <part name="parameter" element="nlIRPData:getLogSubscriptionStatusRequest"/>
  </message>
  <message name="getLogSubscriptionStatusResponse">
    <part name="parameter" element="nlIRPData:getLogSubscriptionStatusResponse"/>
  </message>
  <message name="getLogSubscriptionStatusFault">
    <part name="parameter" element="nlIRPData:getLogSubscriptionStatusFault"/>
  </message>
  <portType name="NLIRPOperations1">
    <operation name="subscribeLog">
      <input message="nlIRPSystem:subscribeLogRequest"/>
      <output message="nlIRPSystem:subscribeLogResponse"/>
      <fault name="subscribeLogFault" message="nlIRPSystem:subscribeLogFault"/>
    </operation>
    <operation name="unsubscribeLog">
      <input message="nlIRPSystem:unsubscribeLogRequest"/>
      <output message="nlIRPSystem:unsubscribeLogResponse"/>
      <fault name="unsubscribeLogFault" message="nlIRPSystem:unsubscribeLogFault"/>
    </operation>
    <operation name="exportLogRecords">
      <input message="nlIRPSystem:exportLogRecordsRequest"/>
      <output message="nlIRPSystem:exportLogRecordsResponse"/>
      <fault name="exportLogRecordsFault" message="nlIRPSystem:exportLogRecordsFault"/>
    </operation>
    <operation name="getLogRecords">
      <input message="nlIRPSystem:getLogRecordsRequest"/>
      <output message="nlIRPSystem:getLogRecordsResponse"/>
      <fault name="getLogRecordsFault" message="nlIRPSystem:getLogRecordsFault"/>
    </operation>
  </portType>
  <portType name="NLIRPOperations2">
    <operation name="getLogSubscriptionIds">
      <input message="nlIRPSystem:getLogSubscriptionIdsRequest"/>
      <output message="nlIRPSystem:getLogSubscriptionIdsResponse"/>
      <fault name="getLogSubscriptionIdsFault" message="nlIRPSystem:getLogSubscriptionIdsFault"/>
    </operation>
    <operation name="getLogSubscriptionStatus">
      <input message="nlIRPSystem:getLogSubscriptionStatusRequest"/>
      <output message="nlIRPSystem:getLogSubscriptionStatusResponse"/>
      <fault name="getLogSubscriptionStatusFault"
message="nlIRPSystem:getLogSubscriptionStatusFault"/>
    </operation>
  </portType>
  <binding name="NLIRPOperations1" type="nlIRPSystem:NLIRPOperations1">
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="subscribeLog">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#subscribeLog" style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="subscribeLogFault">
        <soap:fault name="subscribeLogFault" use="literal"/>
      </fault>
    </operation>
    <operation name="unsubscribeLog">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#unsubscribeLog"
style="document"/>
      <input>
        <soap:body use="literal"/>
      </input>
      <output>
        <soap:body use="literal"/>
      </output>
      <fault name="unsubscribeLogFault">
        <soap:fault name="unsubscribeLogFault" use="literal"/>
      </fault>
    </operation>
    <operation name="exportLogRecords">
      <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#exportLogRecords"
style="document"/>
      <input>
```

```
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
        <fault name="exportLogRecordsFault">
          <soap:fault name="exportLogRecordsFault" use="literal"/>
        </fault>
      </operation>
      <operation name="getLogRecords">
        <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#getLogRecords" style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
        <fault name="getLogRecordsFault">
          <soap:fault name="getLogRecordsFault" use="literal"/>
        </fault>
      </operation>
    </binding>
    <binding name="NLIRPOperations2" type="nlIRPSystem:NLIRPOperations2">
      <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
      <operation name="getLogSubscriptionIds">
        <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#getLogSubscriptionIds"
style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
        <fault name="getLogSubscriptionIdsFault">
          <soap:fault name="getLogSubscriptionIdsFault" use="literal"/>
        </fault>
      </operation>
      <operation name="getLogSubscriptionStatus">
        <soap:operation
soapAction="http://www.3gpp.org/ftp/Specs/archive/32_series/32.337#getLogSubscriptionStatus"
style="document"/>
        <input>
          <soap:body use="literal"/>
        </input>
        <output>
          <soap:body use="literal"/>
        </output>
        <fault name="getLogSubscriptionStatusFault">
          <soap:fault name="getLogSubscriptionStatusFault" use="literal"/>
        </fault>
      </operation>
    </binding>
    <service name="NLIRPService">
      <port name="NLIRPOperations1Port" binding="nlIRPSystem:NLIRPOperations1">
        <soap:address location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.327#ntfLogIRP"/>
      </port>
      <port name="NLIRPOperations2Port" binding="nlIRPSystem:NLIRPOperations2">
        <soap:address location="http://www.3gpp.org/ftp/Specs/archive/32_series/32.327#ntfLogIRP"/>
      </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

<table>
<tr><th colspan="9">Change history</th></tr>
<tr><th>Date</th><th>TSG #</th><th>TSG Doc.</th><th>CR</th><th>R</th><th>Subject/Comment</th><th>Cat</th><th>Old</th><th>New</th></tr>
<tr><td>2009-12</td><td>SA#46</td><td>SP-090727</td><td>--</td><td>--</td><td>Presentation to SA for Information</td><td>--</td><td>--</td><td>1.0.0</td></tr>
<tr><td>2010-03</td><td>SA#47</td><td>SP-100046</td><td>--</td><td>--</td><td>Presentation to SA for Approval</td><td>--</td><td>1.0.0</td><td>2.0.0</td></tr>
<tr><td>2010-03</td><td>--</td><td>--</td><td>--</td><td>--</td><td>Publication of SA approved version</td><td>--</td><td>2.0.0</td><td>9.0.0</td></tr>
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History

Document history		
V9.0.0	April 2010	Publication