



Institut Luxembourgeois de Régulation - Règlement ILR/T20/8 du 17 décembre 2020 fixant le protocole et l'interface sécurisés ainsi que le format d'échange à utiliser pour le transfert des données à fournir par les entreprises notifiées en vertu de l'article 10bis de la loi modifiée du 30 mai 2005 concernant la protection de la vie privée dans le secteur des communications électroniques - Secteur communications électroniques.

La Direction de l'Institut Luxembourgeois de Régulation,

Vu la loi modifiée du 30 mai 2005 concernant la protection de la vie privée dans le secteur des communications électroniques et notamment son article 10bis ;

Arrête :

Art. 1^{er}.

Le présent règlement et ses annexes qui en font partie intégrante fixent le protocole et l'interface sécurisés ainsi que le format d'échange à utiliser pour le transfert des données à fournir, en vertu de l'article 10bis (2) de la loi modifiée du 30 mai 2005 concernant la protection de la vie privée dans le secteur des communications électroniques, par les entreprises notifiées auprès de l'Institut conformément à la loi modifiée du 27 février 2011 sur les réseaux et les services de communications électroniques qui fournissent un service de communications électroniques accessible au public en ayant recours à des ressources de numérotation luxembourgeois (ci-après « notified operators »).

Art. 2.

Le règlement ILR/T18/12 du 5 décembre 2018 fixant le protocole et l'interface sécurisés ainsi que le format d'échange à utiliser pour le transfert des données à fournir par les entreprises notifiées en vertu de l'article 10bis de la loi modifiée du 30 mai 2005 concernant la protection de la vie privée dans le secteur des communications électroniques est abrogé.

Art. 3.

Le présent règlement sera publié au Journal officiel du Grand-Duché de Luxembourg et sur le site Internet de l'Institut.

Pour l'Institut Luxembourgeois de Régulation,

La Direction,

Michèle Bram
Directrice adjointe

Camille Hierzig
Directrice adjoint

Luc Tapella
Directeur



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ANNEXE 1 :

TECHNICAL DOCUMENT FOR OPERATOR WEB SERVICES

Purpose of the document

The purpose of this document is to describe the Web Service published by the IR.COM system for the notified operator.

General information

State	Final
Classification	Confidential

Document History

Version	Date	Author	Description
0.1	31/10/2018	CTIE	Initial version
1.0	22/11/2018	CTIE	Revision
1.1	26/11/2018	CTIE	Revision
1.3	03/12/2018	CTIE	Revision
1.4	04/12/2018	CTIE	Final version
1.5	02/11/2020	CTIE	Revision with the addition of the "TECHNICAL" service nature
1.6	25/11/2020	CTIE	Revision of the section 6.1. "TECHNICAL NUMBERS"

Reference Documents

Ref.	Title	Version	Date
R01	ISO 3166-1 alpha-3 code	2013-1	15/11/2013
R02	Web Services Security X.509 Certificate Token Profile	1.1.1	18/05/2012
R03	WS-SecurityPolicy	1.2	01/07/2007

Table 1 : Reference documents



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Abbreviation and Acronyms

Abbreviation	Definition
ILR	Institut Luxembourgeois de Régulation
JAX-WS	Java API for XML-Based Web Services
SOAP	Simple Object Access Protocol
XSD	XML Schema Definition
WSDL	Web Services Description Language

Table 2 : Abbreviations and Acronyms



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TABLE OF CONTENTS

1	INTRODUCTION	5
1.1	PURPOSE OF THE DOCUMENT	5
1.2	INTENDED AUDIENCE.....	5
1.3	STRUCTURE OF THE DOCUMENT	5
1.4	KEY WORDS.....	5
2	ARCHITECTURE	6
3	WEB SERVICE INTERFACE.....	7
3.1	ENCODING	8
3.2	DEFINITION OF THE OPERATION.....	8
3.2.1	<i>sendReport</i>	8
3.2.2	<i>Example request</i>	8
3.2.3	<i>Example response</i>	10
4	XSD	11
4.1	SENDREPORTINPUT_TYPE.....	11
4.2	SENDREPORTOUTPUT_TYPE	11
4.3	REPORT_TYPE.....	12
4.4	OPERATOR_TYPE	12
4.5	RELATIONS_TYPE	13
4.6	RELATION_TYPE.....	13
4.7	NATURALPERSON_TYPE	14
4.8	LEGALPERSON_TYPE.....	15
4.9	SERVICE_TYPE	15
4.10	NATURE_TYPE	16
4.11	ADDRESS_TYPE.....	17
4.12	NUMBER_TYPE.....	17
4.13	IDDOCUMENT_TYPE.....	18
4.14	ISOCOUNTRY_TYPE	18
4.15	SENDREPORTOUTPUT_TYPE	19
5	SECURITY.....	20
5.1	AUTHENTICATION	20
6	BUSINESS RULES.....	21
6.1	TECHNICAL NUMBERS.....	21

LIST OF TABLES

Table 1 : Reference documents	1
Table 2 : Abbreviations and Acronyms.....	2

LIST OF FIGURES

Figure 1: System Overview	6
---------------------------------	---



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Figure 2: WS client class diagram 7



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1 INTRODUCTION

The chapter introduces the document by its purpose, audience and structure.

1.1 PURPOSE OF THE DOCUMENT

The purpose of this document is to describe the Web Service published by the IR.COM system for the notified operator.

1.2 INTENDED AUDIENCE

The present document is intended to be read by:

- the ILR representatives;
- the notified operators.

1.3 STRUCTURE OF THE DOCUMENT

The document is organized as follows:

- Section 1 "Introduction" is the current section;
- Section 2 "Architecture", an overview of the Web Service;
- Section 3 "Web service interface", definition of the service and the operation: it presents the operations and interfaces defined;
- Section 4 "XSD", provides a detailed description of the XML schema of the Web Service;
- Section 5 "Security" provides a detailed description of the security.
- Section 6 "Business rules" provides additional information on the restrictions applied to the business data.

1.4 KEY WORDS

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119. The key word "CONDITIONAL" is to be interpreted as follows:

CONDITIONAL: The usage of an item is dependent on the usage of other items. It is therefore further qualified under which conditions the item is REQUIRED or RECOMMENDED.



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2 ARCHITECTURE

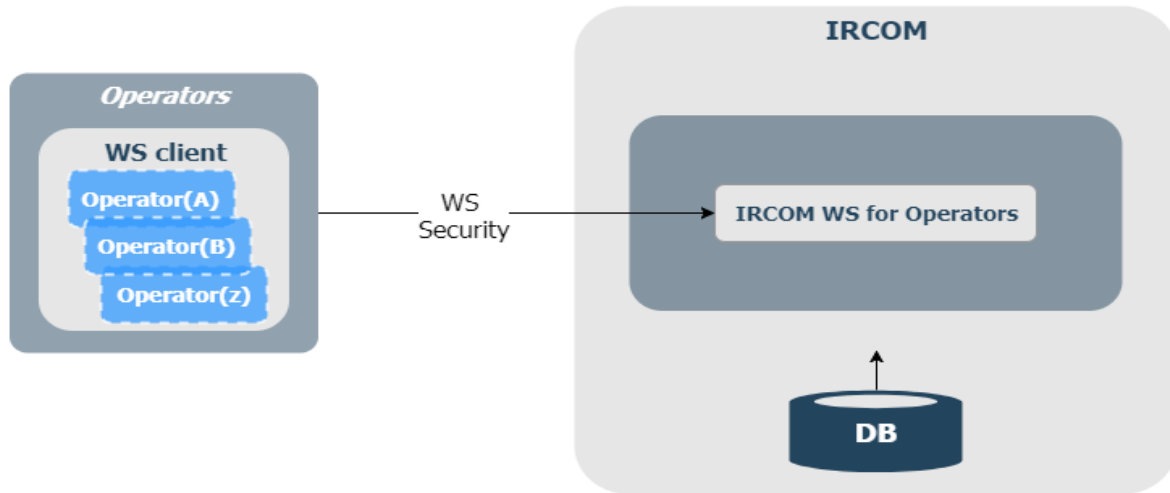


Figure 1: System Overview

Figure 1 shows a global diagram of the communication between the Web Service located on the CTIE servers and the Web Service clients located in the notified operators' infrastructures.

The security is addressed by the WS-Security standard which aims at protecting the integrity and the confidentiality of a message and authenticating the sender.



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3 WEB SERVICE INTERFACE

This chapter presents the Web Service schema.

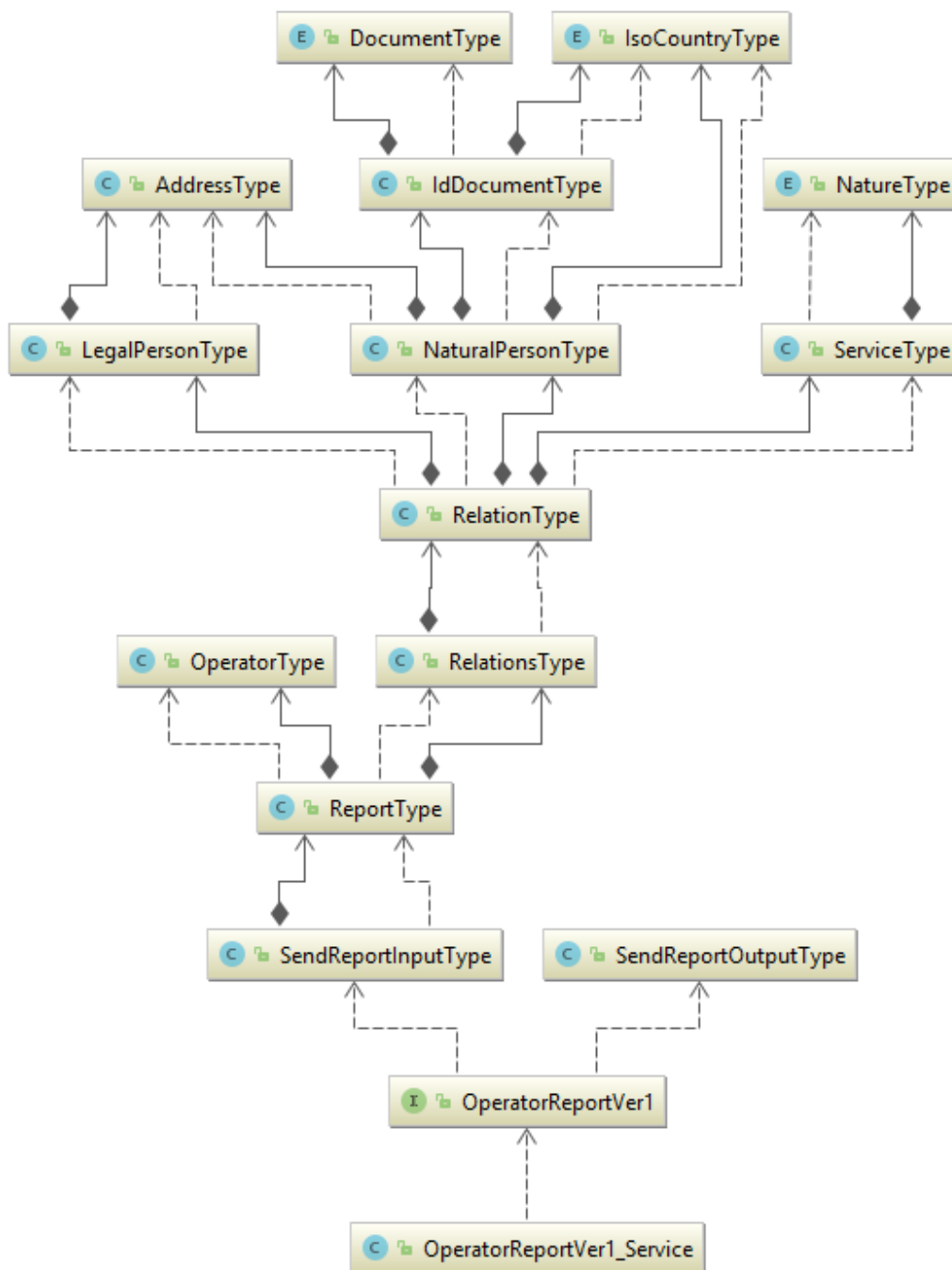


Figure 2: WS client class diagram



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In order to interact with the Web Service, WS clients MUST proceed with the following steps:

- Create a new instance of the OperatorType class and add it to the newly created Report;
- For each subscriber, create a new instance of the RelationType class and add:
 - o A new instance of the ServiceType class:
 - A new instance of the NatureType class has to be created to reflect the nature of the service provided (Fixed, Mobile, Prepaid, or Technical).
 - o Depending on the type of subscriber:
 - A new instance of the NaturalPersonType class:
 - If the Service provided is a prepaid one, a new instance of the IdDocumentType class MUST be provided. A new instance of the DocumentType class MUST also be specified with one of the enumerated values (Id Card, Passport or Certificate of filing an application for international protection).
 - A new instance of the LegalPersonType class.
 - o A new instance of the AddressType class and add it to the corresponding subscriber.
- Create a new instance of the RelationsType class and add all the newly created relations;
- Create a new instance of the ReportType class and add the OperatorType instance and the RelationsType instance.

3.1 ENCODING

The default encoding MUST be **UTF-8** for all the alphanumerical values.

3.2 DEFINITION OF THE OPERATION

This chapter describes the operations and interfaces to interact with the system.

3.2.1 sendReport

sendReport			
Direction	Parameter	Description	Required
Request	report	A report for an operator	Yes
Response	resultMessage	The result message	No
	resultCode	The execution result code	Yes
		0 The operation has SUCCEEDED, the report can be processed.	
	-1 The operation has FAILED, the report WILL NOT be processed		

3.2.2 Example request

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:sendReportInput xmlns:ns2="http://ver1.operator.services.com.ir.etat.lu">
  <report>
    <operator>
      <identifiant>1234542</identifiant>
    </operator>
  </report>
</ns2:sendReportInput>
```



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```
</operator>
<relations>
  <relation>
    <naturalPerson>
      <lastname>Lastname</lastname>
      <firstname>Firstname</firstname>
      <birthdate>2018-10-31</birthdate>
      <birthplace>BirthPlace</birthplace>
      <birthcountry>FRA</birthcountry>
      <idDocument>
        <number>22222222</number>
        <type>PASSPORT</type>
        <country>LUX</country>
      </idDocument>
      <placeOfResidence>
        <number>1b</number>
        <street>Street</street>
        <city>City</city>
        <locality>Locality</locality>
        <zipCode>L-1234</zipCode>
      </placeOfResidence>
      <contactNumber>123198465</contactNumber>
    </naturalPerson>
    <service>
      <number>123456789</number>
      <nature>PREPAID</nature>
      <endDate>2019-12-31</endDate>
    </service>
  </relation>
  <relation>
    <legalPerson>
      <name>Name1</name>
      <establishmentPlace>
        <number>1</number>
        <street>Street 1</street>
        <city>City1</city>
        <locality>Locality1</locality>
        <zipCode>L-1234</zipCode>
      </establishmentPlace>
      <contactNumber>123198465</contactNumber>
    </legalPerson>
    <service>
      <number>123456789</number>
      <nature>zzz</nature>
    </service>
  </relation>
</relations>
</report>
</ns2:sendReportInput>
```



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3.2.3 Example response

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>  
<ns2:sendReportOutput xmlns:ns2="http://ver1.operator.services.com.ir.etat.lu">  
  <resultCode>0</resultCode>  
  <resultMessage>Result message</resultMessage>  
</ns2:sendReportOutput>
```



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4 XSD

4.1 SENDREPORTINPUT_TYPE

Input composed of a report.

The following schema fragment specifies the expected content.

```
<complexType name="sendReportInput_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="report"
          type="{http://ver1.operator.services.com.ir.etat.lu}report_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
report	report_Type	1/1

4.2 SENDREPORTOUTPUT_TYPE

Output wrapper type, composed of a result code and a result message.

The following schema fragment specifies the expected content.

```
<complexType name="sendReportOutput_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="resultCode"
          type="{http://www.w3.org/2001/XMLSchema}int" />
        <element name="resultMessage"
          type="{http://www.w3.org/2001/XMLSchema}string" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties



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Name	Data type	Min/max occurs
resultCode	int	1/1
resultMessage	string	1/1

4.3 REPORT_TYPE

Composed of the information of the operator and its customers list.

The following schema fragment specifies the expected content.

```
<complexType name="report_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="operator"
          type="{http://ver1.operator.services.com.ir.etat.lu}operator_Type" />
        <element name="relations"
          type="{http://ver1.operator.services.com.ir.etat.lu}relations_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
operator	operator_Type	1/1
relations	relations_Type	1/1

4.4 OPERATOR_TYPE

Information on the operator.

The following schema fragment specifies the expected content.

```
<complexType name="operator_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="identifier"
          type="{http://ver1.common.operator.com.ir.etat.lu}max50String_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace



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<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
Identifier	string	1/1

4.5 RELATIONS_TYPE

A list of customer / service relations.

The following schema fragment specifies the expected content.

```
<complexType name="relations_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="relation"
          type="{http://ver1.operator.services.com.ir.etat.lu}relation_Type"
          minOccurs="0"
          maxOccurs="unbounded" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
Relation	list of relation_Type	0/unbounded

4.6 RELATION_TYPE

The relation type.

The following schema fragment specifies the expected content.

```
<complexType name="relation_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <choice>
          <element name="naturalPerson"
            type="{http://ver1.common.operator.com.ir.etat.lu}naturalPerson_Type" />
          <element name="legalPerson"
            type="{http://ver1.common.operator.com.ir.etat.lu}legalPerson_Type" />
        </choice>
        <element name="service"
          type="{http://ver1.operator.services.com.ir.etat.lu}service_Type" />
      </sequence>
    </restriction>
  </complexContent>
```



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```
</restriction>
</complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
naturalPerson	naturalPerson_Type	0/1
legalPerson	legalPerson_Type	0/1
service	service_Type	1/1

4.7 NATURALPERSON_TYPE

Natural person type.

The following schema fragment specifies the expected content.

```
<complexType name="naturalPerson_Type">
  <sequence>
    <element name="lastname"
      type="{http://ver1.common.operator.com.ir.etat.lu}max100String_Type" />
    <element name="firstname"
      type="{http://ver1.common.operator.com.ir.etat.lu}max100String_Type" />
    <element name="birthdate"
      type="{http://www.w3.org/2001/XMLSchema}date" />
    <element name="birthplace"
      type="{http://ver1.common.operator.com.ir.etat.lu}max100String_Type" />
    <element name="birthcountry"
      type="{http://ver1.country.operator.com.ir.etat.lu}isoCountry_Type" />
    <element name="idDocument"
      type="{http://ver1.common.operator.com.ir.etat.lu}idDocument_Type"
      minOccurs="0" />
    <element name="placeOfResidence"
      type="{http://ver1.common.operator.com.ir.etat.lu}address_Type" />
    <element name="contactNumber"
      type="{http://ver1.common.operator.com.ir.etat.lu}number_Type" />
  </sequence>
</complexType>
```

Namespace

<http://ver1.common.operator.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
lastname	string	1/1
firstname	string	1/1
birthdate	date	1/1



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birthplace	string	1/1
birthcountry	isoCountry_Type	1/1
idDocument	idDocument_Type	0/1
placeOfResidence	address_Type	1/1
contactNumber	number_Type	1/1

4.8 LEGALPERSON_TYPE

Legal person type.

The following schema fragment specifies the expected content.

```
<complexType name="legalPerson_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="name"
          type="{http://ver1.common.operator.com.ir.etat.lu}max100String_Type" />
        <element name="establishmentPlace"
          type="{http://ver1.common.operator.com.ir.etat.lu}address_Type" />
        <element name="contactNumber"
          type="{http://ver1.common.operator.com.ir.etat.lu}number_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.common.operator.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
Name	string	1/1
establishmentPlace	address_Type	1/1
contactNumber	number_Type	1/1

4.9 SERVICE_TYPE

Subscribed service.

The following schema fragment specifies the expected content.

```
<complexType name="service_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="number" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```




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```

        type="{http://ver1.common.operator.com.ir.etat.lu}number_Type" />
    <element name="nature"
        type="{http://ver1.operator.services.com.ir.etat.lu}nature_Type" />
    <element name="endDate"
        type="{http://www.w3.org/2001/XMLSchema}date"
        minOccurs="0" />
    </sequence>
</restriction>
</complexContent>
</complexType>
    
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
number	number_Type	1/1
nature	nature_Type	1/1
endDate *	date	0/1

* Depending on the nature of the service, the endDate value can correspond to the contract end date or the deactivation date of the number.

4.10 NATURE_TYPE

The nature type

The following schema fragment specifies the expected content.

```

<simpleType name="nature_Type">
    <restriction base="{http://www.w3.org/2001/XMLSchema}string">
        <enumeration value="FIXED" />
        <enumeration value="MOBILE" />
        <enumeration value="PREPAID" />
        <enumeration value="TECHNICAL" />
    </restriction>
</simpleType>
    
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Values

Value	Description
FIXED	Fixed phone service
MOBILE	Mobile phone service
PREPAID	Prepaid phone service
TECHNICAL	Technical phone service (cf. section 6.1)



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4.11 ADDRESS_TYPE

The address of the person.

The following schema fragment specifies the expected content.

```
<complexType name="address_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="number"
          type="{http://ver1.common.operator.com.ir.etat.lu}max10String_Type"
          minOccurs="0" />
        <element name="street"
          type="{http://ver1.common.operator.com.ir.etat.lu}max50String_Type" />
        <element name="city"
          type="{http://ver1.common.operator.com.ir.etat.lu}max50String_Type" />
        <element name="locality"
          type="{http://ver1.common.operator.com.ir.etat.lu}max50String_Type" />
        <element name="zipCode"
          type="{http://ver1.common.operator.com.ir.etat.lu}max10String_Type" />
        <element name="country"
          type="{http://ver1.country.operator.com.ir.etat.lu}isoCountry_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.common.operator.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
number	string	0/1
street	string	1/1
city	string	1/1
locality	string	1/1
zipCode	string	1/1
country	isoCountry_Type	1/1

4.12 NUMBER_TYPE

The phone number format type.

The following schema fragment specifies the expected content.

```
<simpleType name="number_Type">
  <restriction base="{http://www.w3.org/2001/XMLSchema}token">
    <pattern value="[0-9]{1,17}" />
  </restriction>
```



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</simpleType>

Namespace

<http://ver1.common.operator.com.ir.etat.lu>

Values MUST follow the pattern "[0_9]{17}".

4.13 IdDOCUMENT_TYPE

The IdDocument type.

The following schema fragment specifies the expected content.

```
<complexType name="idDocument_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="number"
          type="{http://ver1.common.operator.com.ir.etat.lu}max50String_Type" />
        <element name="type"
          type="{http://ver1.common.operator.com.ir.etat.lu}document_Type" />
        <element name="country"
          type="{http://ver1.country.operator.com.ir.etat.lu}isoCountry_Type" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.common.operator.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
number	string	1/1
type	document_Type Enumeration with the following values: - ID; - PASSPORT; - INTERNATIONAL_PROTECTION_CERTIFICATE_APPLICATION	1/1
country	isoCountry_Type	1/1

4.14 IsoCOUNTRY_TYPE

The ISO 3166-1 alpha-3 country code type



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The following schema fragment specifies the expected content.

```
<simpleType name="isoCountry_Type">
  <restriction base="{http://www.w3.org/2001/XMLSchema}string">
    <enumeration value="AFG"/>
    .....
    <enumeration value="ZWE"/>
  </restriction>
</simpleType>
```

Namespace

<http://ver1.country.operator.com.ir.etat.lu>

Values are values from the ISO 3166-1 alpha-3 standard ([R01])

4.15 SENDREPORTOUTPUT_TYPE

Output composed of a result code and a result message.

The following schema fragment specifies the expected content.

```
<complexType name="sendReportOutput_Type">
  <complexContent>
    <restriction base="{http://www.w3.org/2001/XMLSchema}anyType">
      <sequence>
        <element name="resultCode"
          type="{http://www.w3.org/2001/XMLSchema}int" />
        <element name="resultMessage"
          type="{http://www.w3.org/2001/XMLSchema}string" />
      </sequence>
    </restriction>
  </complexContent>
</complexType>
```

Namespace

<http://ver1.operator.services.com.ir.etat.lu>

Properties

Name	Data type	Min/max occurs
resultCode	int	1/1
resultMessage	string	1/1



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5 SECURITY

The security of the Web Services relies on two different mechanisms:

- Protocol related: all access to the Web Services MUST be done using HTTPS.
- Application related: the WS-Security standards MUST be used by the client to send trusted user information to the server.

5.1 AUTHENTICATION

The authentication with WS services will be handled by WS-Security ([\[R02\]](#)).

A **BinarySecurityToken** element MUST be added to the header of the SOAP message. This BinarySecurityToken contains the X509v3 certificate used for signing.

A Timestamp **<wsu:Timestamp>** element MUST be present with the creation date **<wsu:Created>** and the expiration date **<wsu:Expires>**.

The following elements MUST be signed with the X509v3 certificate of the BinarySecurityToken :

- TimeStamp element of the SOAP header;
- The SOAP body.

The encoding algorithms used MUST be Basic256Sha256 ([\[R03\]](#)).

```
<soapenv:Envelope>
  <soapenv:Header>
    <wsse:Security
      xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"
      xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd">
      <wsse:BinarySecurityToken
        EncodingType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0#Base64Binary"
        ValueType="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-x509-token-profile-1.0#X509v3"
        wsu:Id="X509-123">
        MIIETJCCAzagAwIBAgIBBzANBgkqhkiG9w0BAQsFADBBMQswCQYDVQQGEwJMVTENMAsGA1UEChMERVR
        ...
        XtDMtkFkqydAcmwI/2mOazJ9fZAcZnWfG2gOTI4ApkpzZWj8hTHPwh+NPIPIZXKtHxV9YsOamBif39k=
        </wsse:BinarySecurityToken>
        <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
          <ds:SignedInfo>...</ds:SignedInfo>
          <ds:SignatureValue>...</ds:SignatureValue>
          <ds:KeyInfo>...</ds:KeyInfo>
        </ds:Signature>
        <wsu:Timestamp wsu:Id="TS-123">
          <wsu:Created>2017-12-05T15:19:24Z</wsu:Created>
          <wsu:Expires>2017-12-05T15:24:24Z</wsu:Expires>
        </wsu:Timestamp>
      </wsse:Security>
    </soapenv:Header>
  </soapenv:Envelope>
```

The call to the Web Service provider is done by sending the previous message. This transfer is secured via the SSL protocol.

The application receives the message and checks if the XML SOAP message has not been modified and if the access to the Web Service is allowed for the calling application:

- Using the public key, the XML-Signature is verified.

The application executes the method of the Web Service and returns the result which is secured by SSL.



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6 BUSINESS RULES

6.1 TECHNICAL NUMBERS

The business rules applicable to technical numbers are:

- A technical number **MUST** always be associated with an operator of electronic communications services (cf. structure of a legal person in section 4.8).
- The mandatory/optional data for technical numbers are those of call numbers assigned to a legal person.
- A technical number **MAY** be reassigned later as a service number of another type.



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ANNEXE 2 :

TECHNICAL DOCUMENT FOR CSV FILE FORMAT FOR NOTIFIED OPERATORS

Purpose of the document

The purpose of this document is to describe the format of the CSV file mainly used for the initial upload of data in the IR.COM system for the notified operators.

General information

State	Final
Classification	Confidential

Version	Date	Author	Description
0.1	31/10/2018	CTIE	Initial version
1.0	21/11/2018	CTIE	Revision
1.2	23/11/2018	CTIE	Revision
1.3	03/12/2018	CTIE	Revision
1.4	04/12/2018	CTIE	Revision
1.5	04/12/2018	CTIE	Final version
1.6	02/11/2020	CTIE	Revision with the addition of the "TECHNICAL" service nature
1.7	25/11/2020	CTIE	Revision of the section 3.1 "TECHNICAL NUMBERS"

Reference Documents

Ref.	Title	Version	Date
R01	RFC4180 - Common Format and MIME Type for Comma-Separated Values (CSV) Files	2005	01/10/2005
R02	ISO 3166-1 alpha-3 code	2013-1	15/11/2013

Table 1 : Reference documents

Abbreviation and Acronyms

Abbreviation	Definition
CSV	Comma-Separated Value
ILR	Institut Luxembourgeois de Régulation

Table 2 : Abbreviations and Acronyms



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TABLE OF CONTENTS

1 INTRODUCTION 3

1.1 PURPOSE OF THE DOCUMENT 3

1.2 INTENDED AUDIENCE 3

1.3 STRUCTURE OF THE DOCUMENT 3

1.4 KEY WORDS 3

2 CSV FILE FORMAT 4

2.1 CSV FILENAME RULES 4

2.2 CSV FILE RULES 4

2.3 CSV FILE STRUCTURE 4

2.4 FIELD SEPARATOR 4

2.5 HEADER FORMAT 4

2.6 ROW FORMAT 4

3 BUSINESS RULES 7

3.1 TECHNICAL NUMBERS 7

4 EXAMPLES 8

4.1 NATURAL PERSON 8

4.2 LEGAL PERSON 9

LIST OF TABLES

Table 1 : Reference documents 1

Table 2 : Abbreviations and Acronyms 1

Table 3 : CSV row format 6

Table 4 : CSV values for a Natural Person 8

Table 5 : CSV values for a Legal Person 9



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1 INTRODUCTION

The chapter introduces the document by its purpose, audience and structure.

1.1 PURPOSE OF THE DOCUMENT

The purpose of this document is to describe the format of the CSV ([\[R01\]](#)) file mainly used for the initial upload of data in the IR.COM system for the notified operators.

1.2 INTENDED AUDIENCE

The present document is intended to be read by:

- the ILR representatives;
- the notified operators.

1.3 STRUCTURE OF THE DOCUMENT

The document is organized as follows:

- Section 1 "Introduction" is the current section;
- Section 2 "CSV File format", the definition of the filename convention, the file format and the structure of the file to use.
- Section 3 "Business rules" provides additional information on the restrictions applied to the business data.
- Section 4 "Examples" gives examples of the file format.

1.4 KEY WORDS

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119. The key word "CONDITIONAL" is to be interpreted as follows:

CONDITIONAL: The usage of an item is dependent on the usage of other items. It is therefore further qualified under which conditions the item is REQUIRED or RECOMMENDED.



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2 CSV FILE FORMAT

2.1 CSV FILENAME RULES

In order to be correctly handled and processed by the system, the received CSV files **MUST** be named regarding the requirements below :

- The file type extension **MUST** be set to ".csv";
- The file names **MUST NOT** include whitespaces;

2.2 CSV FILE RULES

The following rules apply regarding the content of the files:

- The character set used by the data contained in the file **MUST** be **UTF-8**;
- No binary data **MUST** be transported in the CSV file;
- A CSV file **MUST** contain at least the header line.
 - o In the case of an empty daily report, the CSV file **MUST** contain only the header line.
- The End of Record **MUST** be set to CR+LF (i.e. Carriage Return and Line Feed).

2.3 CSV FILE STRUCTURE

This section describes the different principles to follow in order to produce a valid CSV file for the import process of subscribers' data to the IR.COM system.

Except the first line of the file which contains the headers, each line of the file represents one subscriber record and is terminated by any valid new Line feed (Carriage Return (CR) ASCII (13) and Line Feed (LF) ASCII (10))

2.4 FIELD SEPARATOR

The field separator to use is "@@". This value ensures that the separator cannot be present in a value of the file.

2.5 HEADER FORMAT

The header row **MUST** be strictly as follows :

Service_Number@@Service_End_Date@@Service_Nature@@Person_Type@@Person_Name@@Person_Firstname@@Person_Birthdate@@Person_Birthplace@@Person_Birthcountry@@Contact_Number@@Address_Number@@Address_Street@@Address_City@@Address_Locality@@Address_ZipCode@@Address_Country@@IdDocument_Number@@IdDocument_Type@@IdDocument_Country

2.6 ROW FORMAT

Name	Format	Description
Service_Number	Numeric value: - Pattern : [0-9]{1,17}	The subscribed service number.



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Service_End_Date	Date - Format YYYY-MM-DD	Depending on the nature of the service, the contract end date or the deactivation date of the number.
Service_Nature	Enumeration - FIXED - MOBILE - PREPAID - TECHNICAL	The Subscribed service nature. - FIXED corresponds to a Fixed phone service - MOBILE corresponds to a Mobile phone service - PREPAID corresponds to a Prepaid phone service - TECHNICAL corresponds to a technical phone service (cf. section 3.1)
Person_Type	Enumeration : - NATURAL - LEGAL	The type of the person - NATURAL corresponds to a natural person - LEGAL corresponds to a legal person
Person_Name	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 100	The last name of the Natural person. The name for a legal person.
Person_Firstname	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 100	The first name of the Natural person. Empty for a legal person.
Person_Birthdate	Date Format YYYY-MM-DD	The birth date of the Natural person. Empty for a legal person.
Person_Birthplace	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 100	The birth place of the Natural person. Empty for a legal person.
Person_Birthcountry	Enumeration : - ISO 3166-1 alpha-3 list ([R02])	The birth country of the Natural person. Empty for a legal person.
Contact_Number	Numeric value: - Pattern : [0-9]{1,17}	Contact number of the person
Address_Number	Alphanumeric value (UTF-8) : - Minimum size : 0 - Maximum size : 10	Street number of the address
Address_Street	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 50	Street of the address
Address_City	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 50	City of the address



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Address_Locality	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 50	Locality of the address
Address_ZipCode	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 10	Zip code of the address
Address_Country	Enumeration : ISO 3166-1 alpha-3 list (R02)	Country of the address.
IdDocument_Number	Alphanumeric value (UTF-8) : - Minimum size : 1 - Maximum size : 50	Number of the ID document Empty for legal person
IdDocument_Type	Enumeration - ID; - PASSPORT; - INTERNATIONAL_PROTECTION_CERTIFICATE_APPLICATION	ID Document type: <ul style="list-style-type: none"> • Id Card; • Passport; • Certificate of filing an application for international protection. Empty for a legal person
IdDocument_Country	Enumeration : - ISO 3166-1 alpha-3 list (R02)	Country of delivery of the ID document Empty for a legal person

Table 3 : CSV row format



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3 BUSINESS RULES

3.1 TECHNICAL NUMBERS

The business rules applicable to technical numbers are:

- A technical number **MUST** always be associated with an operator of electronic communications services (cf. structure of a legal person).
- The mandatory/optional data for technical numbers are those of call numbers assigned to a legal person.
- A technical number **MAY** be reassigned later as a service number of another type.



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4 EXAMPLES

4.1 NATURAL PERSON

Hereafter the expected CSV record for a natural person whose information is provided in [table 4](#)

123456789@@2019-12-31@@PREPAID@@NATURAL@@Smith@@John@@1975-07-01@@Paris@@FRA@@123198465@@5B@@Rue de l'Abattoir@@Luxembourg@@Luxembourg@@L-1111@@LUX@@12345679@@PASSPORT@@LUX

Name	Value
Service_Number	123456789
Service_End_Date	2019-12-31
Service_Nature	PREPAID
Person_Type	NATURAL
Person_Name	Smith
Person_Firstname	John
Person_Birthdate	1975-07-01
Person_Birthplace	Paris
Person_Birthcountry	FRA
Contact_Number	123198465
Address_Number	5B
Address_Street	Rue de l'Abattoir
Address_City	Luxembourg
Address_Locality	Luxembourg
Address_ZipCode	L-1111
Address_Country	LUX
IdDocument_Number	12345679
IdDocument_Type	PASSPORT
IdDocument_Country	LUX

Table 4 : CSV values for a Natural Person



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4.2 LEGAL PERSON

Hereafter the expected CSV record for a legal person and the corresponding information in [\[table 5\]](#)

123456789@@@FIXED@@LEGAL@@World cie@@@@@@@@123198465@@2@@Rue
Albert 1er@@Luxembourg@@Luxembourg@@L-1117@@LUX@@@@@

Name	Value
Service_Number	123456789
Service_End_Date	2019-12-31
Service_Nature	FIXED
Person_Type	LEGAL
Person_Name	World cie
Person_Firstname	-
Person_Birthdate	-
Person_Birthplace	-
Person_Birthcountry	-
Contact_Number	123198465
Address_Number	2
Address_Street	Rue Albert 1er
Address_City	Luxembourg
Address_Locality	Luxembourg
Address_ZipCode	L-1117
Address_Country	LUX
IdDocument_Number	-
IdDocument_Type	-
IdDocument_Country	-

Table 5 : CSV values for a Legal Person



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ANNEXE 3 :**TERMS AND CONDITIONS OF THE SERVICE OF DATA TRANSFER**

Purpose of the document

The purpose of this document is to describe the terms and conditions of the service of data transfer.

Abbreviation and Acronyms

Abbreviation	Definition
CTIE	Centre des technologies de l'information de l'État
IT	Information Technologies

Table 1 : Abbreviations and Acronyms

TABLE OF CONTENTS

1	INFORMATION SECURITY	3
1.1	INFORMATION SECURITY FRAMEWORK	3
1.2	ACCESS CONTROL	3
2	SERVICE MANAGEMENT	4
2.1	SERVICE MANAGER	4
2.2	SERVICE LIFECYCLE	4
2.3	SUSPENSION OR MODIFICATION OF THE SERVICE	4
2.4	INCIDENT MANAGEMENT PROCEDURE	4
3	LIABILITIES OF USE OF THE SERVICE	4

LIST OF TABLES

<i>Table 1 : Abbreviations and Acronyms</i>	1
---	----------

In order to use the service of data transfer implemented in the context of the article 10bis of the modified law of the 30th May 2005 regarding the protection of privacy in the electronic communications sector (hereafter "the Service"), the notified operators shall conform to the following obligations:

1 INFORMATION SECURITY

1.1 INFORMATION SECURITY FRAMEWORK

As the exchange of information performed via the Service contains confidential and personal data, the confidentiality, integrity and authenticity of the information exchange can only be ensured by appropriate information security measures.

The notified operators commit to respect the following requirements in their respective information security processes:

- Information security policy:
 - Establish an information security policy which includes such fundamental aspects as the assignment of roles and responsibilities, a risk management process and an asset management process allowing to set and maintain an inventory of the information systems using the Service and their configurations.
- Operational security of the assets using the Service:
 - Implement appropriate information security configurations on the assets with regards to the criticality of the Service. This implementation shall consider the following information security principles: principle of least privilege, principle of defense in depth, principle of segregation of duties, principle of traceability for the use of the Service.
 - Review and approve every critical change after an information security risk analysis.
 - Inform the Institut Luxembourgeois de Régulation (hereafter "the Institute") and its subcontractor, i.e. the CTIE (hereafter "the Subcontractor") of such critical change in case it may impact them.
 - Establish a vulnerability management process.
 - Establish an information security monitoring process.
 - Establish an incident management process and report any information security incident which concerns the Service and which can endanger the Institute and the Subcontractor.
 - Establish a process of regular review of the calls to the Service in order to detect any abuse.
- Sub-contracting:
 - Enforce the present information security requirements to any subcontractor involved in the conception and the operation of the information systems using the Service.

1.2 ACCESS CONTROL

The use of the Service requires strong authentication. The strong authentication means authorized to access the Service will be described in a separate document, which will be communicated to the notified operators by the Institute.

Any loss, theft or suspicion of compromise of the strong authentication means shall be notified to the Institute in order to allow him to block the related accesses.

In the perspective of ensuring the protection of the Luxembourg State's IT infrastructures, respectively the vital interests of the State, the Institute or the Subcontractor are authorized to suspend or revoke accesses, either:

- (i) upon request of the notified operator,

or at their own discretion:

- (ii) in case of suspicion that a notified operator does not respect its obligations or represents a threat to the security of the Service or to the Subcontractor's IT infrastructure, or
- (iii) in case of suspicion that the related strong authentication means have been compromised

In the cases (ii) and (iii), the Institute informs the notified operator as soon as possible.

2 SERVICE MANAGEMENT

2.1 SERVICE MANAGER

The notified operators shall appoint a service manager who is responsible for managing the notified operators' activities related to the Service. The notified operators shall communicate the service manager's contact data to the Institute and ensure that this information is at all times up-to-date.

The service managers shall manage and coordinate the processes and ensure compliance with the applicable regulations. They are the privileged point of contact for the Institute and the Subcontractor, and they shall be reachable at any time on short notice.

2.2 SERVICE LIFECYCLE

The Service is intended to evolve or to be corrected. Functional or corrective maintenances may happen. The schedule of these maintenance activities will be communicated in advance to the service managers.

2.3 SUSPENSION OR MODIFICATION OF THE SERVICE

In the event a notified operator does not comply with the current terms and conditions, and to protect the Subcontractor's IT infrastructures, either the Institute or the Subcontractor may proceed either (i) with a suspension, or (ii) with a modification of the Service.

- (i) Suspension

The Institute or the Subcontractor may unilaterally decide to suspend the Service, fully or partially, in case a notified operator misuses or abuses the Service in a way which could potentially undermine the Subcontractor's IT infrastructure.

The Institute or the Subcontractor which activated the suspension measure may maintain this measure as long as the cause of the suspension remains, or until a satisfactory and sustainable solution has been identified and implemented by the notified operator.

- (ii) Modification

The Institute or the Subcontractor may proceed with a modification of the Service in case a notified operator misuses or abuses the Service in a way which could potentially undermine the Subcontractor's IT infrastructure.

In both cases, the Institute informs the notified operator as soon as possible.

2.4 INCIDENT MANAGEMENT PROCEDURE

The notified operators commit to establish an incident management procedure, ensuring that incidents are appropriately managed.

3 LIABILITIES OF USE OF THE SERVICE

The notified operators commit to ensure that their agents, employees, external collaborators, consultants, providers, and generally all the persons allowed by them to access the Service abide by the terms and conditions of the current regulation. The use of the Service is performed under the unique responsibility of the notified operator having provided the access to the Service.

