

FICORA / Domain Name System	Version: 1.7
	28 <sup>th</sup> August 2009

# **FICORA Domain Name System**

## **Web Service functionality - service description**

**Version: 1.7**

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### Version management

Author	Date	Version	Comments
MQ, TW	13.4.2007	1.0	Document created
TW	24.8.2007	1.4	Updated document to match Finnish version 1.4
AO	22.10.2008	1.5	Updated sections 3.3, 3.6, 4.1 and 5.2 regarding alternative validity periods of a domain name
AO	29.4.2009	1.6	Updated sections 3.3, 3.4, 4.4 and 5.4 regarding IPv6 address
AO	28.8.2009	1.7	Added error code DOMAIN_IS_NOT_RENEWABLE_OPEN_ACCOUNT_TRANSFER to section 5.2 and new validity period of 60 months (five years) to applicable sections

### Review entries

Reviewer	Date	Version	Comments
SS	30.5.2007	1.1	
SS	22.10.2008	1.5	
MK	3.4.2009	1.5	Corrected the section 4.1 regarding the person_name_registration_id field
SS	4.5.2009	1.6	Corrected the section 4.2 regarding the domain_name_holder_company_type field

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## 1 Introduction

This document describes the Web Service interface of the FICORA domain name system intended for service providers. The Web Service interface can be used by service providers to perform the following tasks related to fi domain names:

- Applying for a new domain name
- Renewing a domain name
- Changing name servers for a domain name
- Deleting the name servers of a service provider from a domain name

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## 2 General

### 2.1 Access rights

In order to use the Web Service interface, the service provider needs to contact the customer service department of the domain name system. The customer service department opens a so-called Web Service account for the service provider, enabling the service provider to perform tasks on the WS interface that are liable to a charge. The customer service department also sends the encryption key to the service provider required for the use of the interface by mail.

### 2.2 Time stamp

An XML message contains a time stamp where the time should be +/- 1h in relation to the server's time. If the time difference is greater than allowed, the service request is declined.

The system handles time in UTC (Coordinated Universal Time) format where the effect of different time zones is eliminated. This means that the time stamp that will be added to the message must be converted from local time to UTC time. The format used in the XML message is following:

- `yyyy-MM-ddTHH:mm:ss.fffffffZ`

Different parts are:

- `yyyy` = year with four digits, e.g. 2007
- `MM` = month with two digits, e.g. 08
- `dd` = day with two digits, e.g. 05
- `T` = separator between date and time
- `HH` = hours with two digits, e.g. 21
- `mm` = minutes with two digits, e.g. 06
- `ss` = seconds with two digits, e.g. 34
- `ffffff` = fractions of second with seven digits, e.g. 2698750
- `Z` = UTC constant

Example time stamp using example digits above would be:

- `2007-08-05T21:06:34.2698750Z`

### 2.3 Authentication

Each XML message to be sent contains a so-called message context that includes a user name, a time stamp and a MAC code. These fields are used when the service authenticates an incoming service request. For a more detailed description of authentication, refer to the sections below.

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### 2.3.1 User name

The user name that is added to an XML message is the same name that the service provider uses when logging into the domain name system.

### 2.3.2 Encryption key (shared key)

The encryption key is a string that consists of 24 characters. The customer service of the domain name system delivers it to the service provider by mail.

### 2.3.3 Calculating a MAC code

#### 2.3.3.1 Creating a message

The MAC code is calculated from a string where all the data fields of the XML message are placed sequentially in the same order as they appear in the message. An encryption key is added to this string, and the resulting string is used to calculate a hash value using an SHA-1 algorithm. The hash value is then added to the XML message. The byte conversion required for calculating the hash value is performed using UTF-8 byte encoding.

The hash value is represented as a hexadecimal number where all alphabetical characters are lower case and whose length as a string is 40 characters.

#### 2.3.3.2 Example

String:

TämänTekstinTiiviste

Encryption key:

S76WYW9G6UW6FYR4RGC46E5Q

String used to calculate a hash value:

TämänTekstinTiivisteS76WYW9G6UW6FYR4RGC46E5Q

Hash value:

f81911898697cd8224083f4cd045a68e055560c0

## 2.4 Test interface

Web service can be tested using the wsdl description from the address:

[https://domainws.ficora.fi/fidomainetest/DomainNameWS\\_FicoraDomainNameWS.svc?wsdl](https://domainws.ficora.fi/fidomainetest/DomainNameWS_FicoraDomainNameWS.svc?wsdl)

Information about the user name and encryption key that should be used in test environment can be obtained from the customer service of the domain name system.

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### 3 Service interfaces

#### 3.1 WSDL description of the service

[https://domainws.ficora.fi/fidomain/DomainNameWS\\_FicoraDomainNameWS.svc?wsdl](https://domainws.ficora.fi/fidomain/DomainNameWS_FicoraDomainNameWS.svc?wsdl)

#### 3.2 Ping test service

The purpose of the Ping test service is to make the use of the service interface easier for developers. The Ping service is an interface with no message to be sent, and it returns a simple string. Developers can use this service to test that the connection to the test/production server functions without generating messages and calculating a MAC code.

##### 3.2.1 Namespace of the service

Message	Sender	Namespace
Ping call	ISP	<a href="http://domainws.ficora.fi.operations/DomainNameWS/Ping">http://domainws.ficora.fi.operations/DomainNameWS/Ping</a>
Ping return	FICORA	<a href="http://domainws.ficora.fi.operations/DomainNameWS/PingResponse">http://domainws.ficora.fi.operations/DomainNameWS/PingResponse</a>

##### 3.2.2 Ping call schema

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <To s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">
      https://domainws.ficora.fi/fidomain/DomainNameWS\_FicoraDomainNameWS.svc
    </To>
    <Action s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">
      http://domainws.ficora.fi.operations/DomainNameWS/Ping
    </Action>
  </s:Header>
  <s:Body>
    <Ping xmlns="http://domainws.ficora.fi.schemas/"></Ping>
  </s:Body>
</s:Envelope>
```

##### 3.2.3 Return message schema

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Header>
    <Action s:mustUnderstand="1"
xmlns="http://schemas.microsoft.com/ws/2005/05/addressing/none">
      http://domainws.ficora.fi.operations/DomainNameWS/PingResponse
    </Action>
  </s:Header>
  <s:Body>
    <PingResponse xmlns="http:// domainws.ficora.fi.schemas/">
      <PingResult>FICORA DOMAIN WEB SERVICE</PingResult>
    </PingResponse>
  </s:Body>
</s:Envelope>
```

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### 3.3 Applying for a new domain name

The Apply for New Domain Name service can be used to apply for one domain name at a time. The applicant should send the complete information about the domain name. The service will return any errors in a return message.

#### 3.3.1 Namespace of the service

Message	Sender	Namespace
Apply call	ISP	<a href="http://domainws.ficora.fi.operations/DomainNameWS/Apply">http://domainws.ficora.fi.operations/DomainNameWS/Apply</a>
Apply return	FICORA	<a href="http://domainws.ficora.fi/DomainNameWS.operations/ApplyResponse">http://domainws.ficora.fi/DomainNameWS.operations/ApplyResponse</a>

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### 3.3.2 Calculating a MAC code

The MAC code is generated from the following fields of the XML message:

- name
- valid\_applicant\_confirmation
- based\_on\_person\_name
- person\_name\_registration\_id
- person\_name\_registration\_number
- domain\_name\_holder\_company\_type
- domain\_name\_holder\_business\_id
- domain\_name\_holder\_person\_id
- electronic\_notification\_approval
- data\_publishing\_approval
- nameserver:name (see NOTE 2)
- nameserver:ipaddress
- nameserver:ipv6address (see NOTE 6)
- contact:type (see NOTE 3)
- contact:company
- contact:department
- contact:first\_names (see NOTE 4)
- contact:last\_name
- contact:postal\_address
- contact:postal\_code
- contact:postal\_office
- contact:phone
- contact:email
- contact: language\_code
- context.user\_name
- context:timestamp
- domain\_validity\_period\_in\_months (see NOTE 5)

NOTE 1: Some of the fields may not contain any actual content. In this case, nothing is added to the string that is used to generate a MAC code for these fields.

NOTE 2: All name servers (2–10) must be included, and the name and ipaddress fields should be picked up from all name servers.

NOTE 3: All contact persons (1–3) must be included, and the type, company, department, first\_names, last\_name, postal\_address, postal\_code, postal\_office, phone, email and language\_code fields must be picked up for all contact persons.

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NOTE 4: The string array is used as a data type for the field containing the first names of the contact person (first\_name), which means that the number of first names may vary from 0 to n.

NOTE 5: The field is optional integer type field that can be omitted from the request message. If omitted, domains validity period is set to 36 months as a default. Valid values for this field are 12, 36 and 60 (starting from 1<sup>st</sup> of Sept. 2009); any other values will cause an error to be returned.

NOTE 6: The field is optional string type field that can be omitted from the message. If omitted, name server's IPv6 address will not be set. If value is given, it must be in colon hexadecimal notation and leading zeros and groups of zeros can be shortened out.

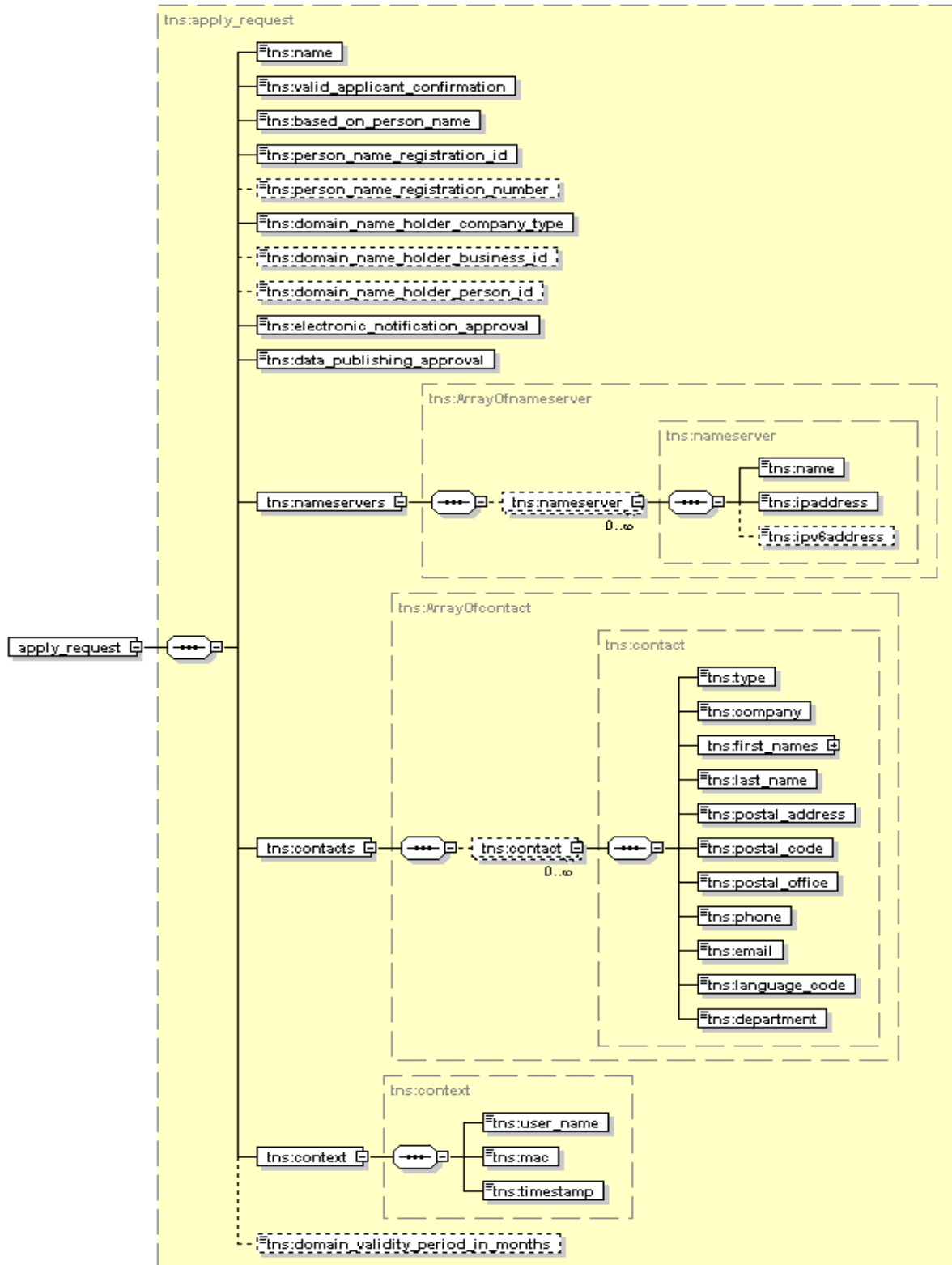
An example of an XML message is included below.

```
<a:name>ws-test id1.fi</a:name>
<a:valid applicant confirmation>true</a:valid applicant confirmation>
<a:based on person name>>false</a:based on person name>
<a:person name registration id>0</a:person name registration id>
<a:person name registration number
i:nil="true"></a:person name registration number>
<a:domain name holder company type>1</a:domain name holder company type>
<a:domain name holder business id>1234567-
1</a:domain name holder business id>
<a:domain name holder person id></a:domain name holder person id>
<a:electronic notification approval>true</a:electronic notification approva
l>
<a:data publishing approval>>false</a:data publishing approval>
<a:nameservers>
  <a:nameserver>
    <a:name>ns1.test.fi</a:name>
    <a:ipaddress></a:ipaddress>
    <a:ipv6address></a:ipv6address>
  </a:nameserver>
  <a:nameserver>
    <a:name>ns2.test.fi</a:name>
    <a:ipaddress></a:ipaddress>
  </a:nameserver>
</a:nameservers>
<a:contacts>
  <a:contact>
    <a:type>0</a:type>
    <a:company>Test Company Ltd.</a:company>
    <a:department>IT department</a:department>
    <a:first names
xmlns:b="http://schemas.microsoft.com/2003/10/Serialization/Arrays">
      <b:string></b:string>
    </a:first names>
    <a:last_name></a:last_name>
    <a:postal address>Sample Street</a:postal address>
    <a:postal code>00100</a:postal code>
    <a:postal office>Helsinki</a:postal office>
    <a:phone>12345</a:phone>
    <a:email>aa@bb.cc</a:email>
    <a:language code>fi-FI</a:language code>
  </a:contact>
</a:contacts>
<a:context>
  <a:user name>ispi1234</a:user name>
  <a:mac>50c9b50e926e0aac6a04ad3a5b45cd3de0d1f58d</a:mac>
  <a:timestamp>2007-04-01T10:47:26.981856Z</a:timestamp>
</a:context>
<a:domain_validity_period_in_months>12</a:domain_validity_period_in_months>
```

### 3.3.3 Request message

The structure of the request message is described in the chart below. The fields are described in Chapter 4.

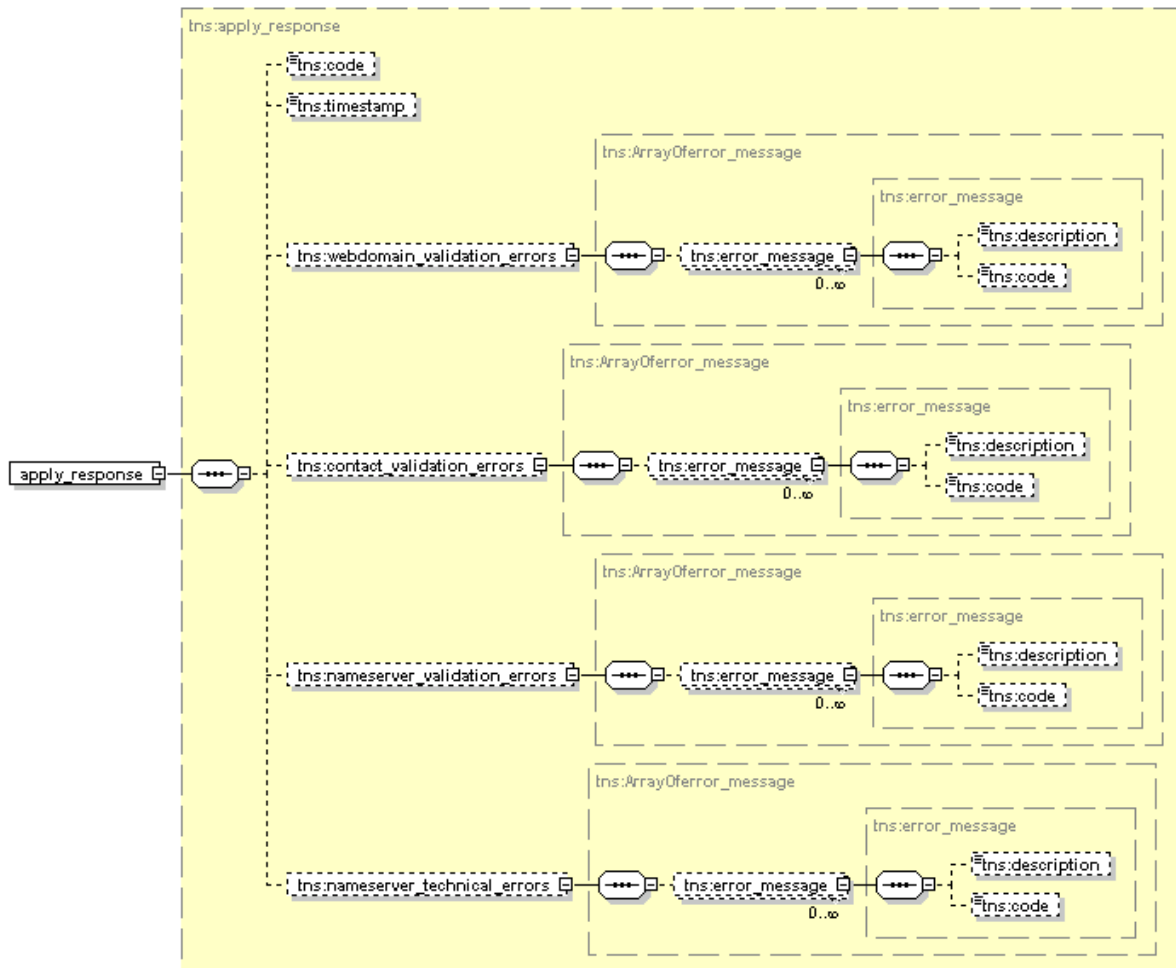
Information to be sent.



### 3.3.4 Return message

The structure of the return message is described in the chart below. The fields are described in Chapter 5.

Information returned.



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### 3.4 Changing name servers

The Change Name Servers service can be used to change the name servers for one domain name at a time. The service will return any errors in a return message.

#### 3.4.1 Namespace of the service

Message	Sender	Namespace
ChangeNameServers call	ISP	http://domainws.ficora.fi.operations/DomainNameWS/ChangeNameServers
ChangeNameServers return	FICORA	http://domainws.ficora.fi.operations/DomainNameWS/ChangeNameServers Response

#### 3.4.2 Calculating a MAC code

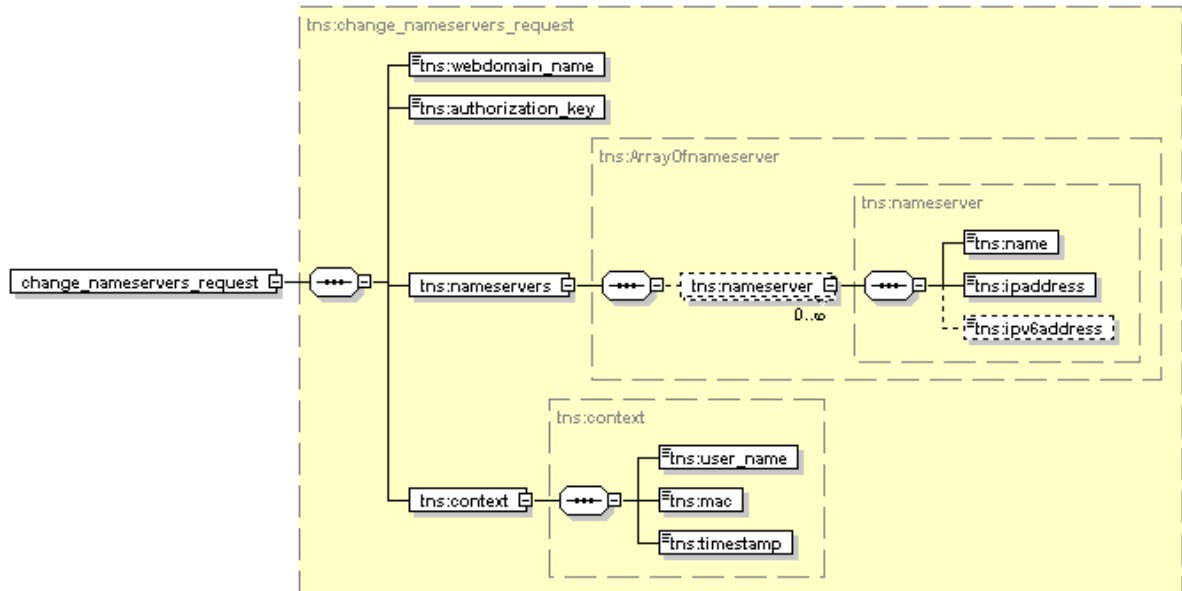
The MAC code is generated from the fields of the XML message as follows:

```
<a:webdomain name>testcompany.fi</a:webdomain name>
<a:authorization_key>12345678</a:authorization_key>
<a:nameservers>
  <a:nameserver>
    <a:name>ns1.testcompany.fi</a:name>
    <a:ipaddress>1.2.3.4</a:ipaddress>
    <a:ipv6address>aaaa:bbb:cc:d::</a:ipv6address>
  </a:nameserver>
  <a:nameserver>
    <a:name>ns2.a.fi</a:name>
    <a:ipaddress></a:ipaddress>
  </a:nameserver>
</a:nameservers>
<a:context>
  <a:user name>ispi1234</a:user name>
  <a:mac>jdjaouteiooquto</a:mac>
  <a:timestamp>2007-03-29T16:00:11.2490512Z</a:timestamp>
</a:context>
```

### 3.4.3 Request message

The structure of the request message is described in the chart below. The fields are described in Chapter 4.

Information to be sent.



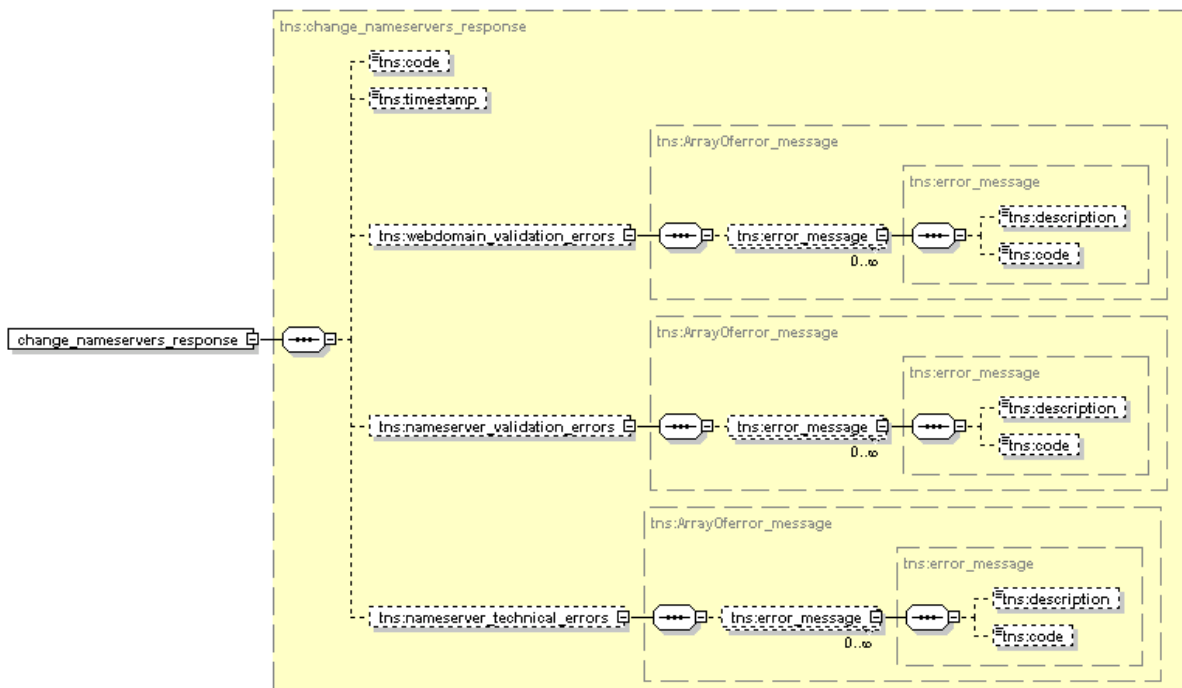
Generated by XmlSpy

www.altova.com

### 3.4.4 Return message

The structure of the return message is described in the chart below. The fields are described in Chapter 5.

Information returned.



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### 3.5 Deleting name servers

The Delete Name Servers service can be used by the service provider to delete the service provider's own name servers from the domain name. The service will return any errors in a return message.

#### 3.5.1 Namespace of the service

Message	Sender	Namespace
RemoveNameServers call	ISP	http://domainws.ficora.fi.operations/DomainNameWS/RemoveNameServers
RemoveNameServers return	FICORA	http://domainws.ficora.fi.operations/DomainNameWS/RemoveNameServers Response

#### 3.5.2 Calculating a MAC code

The MAC code is generated from the fields of the XML message as follows:

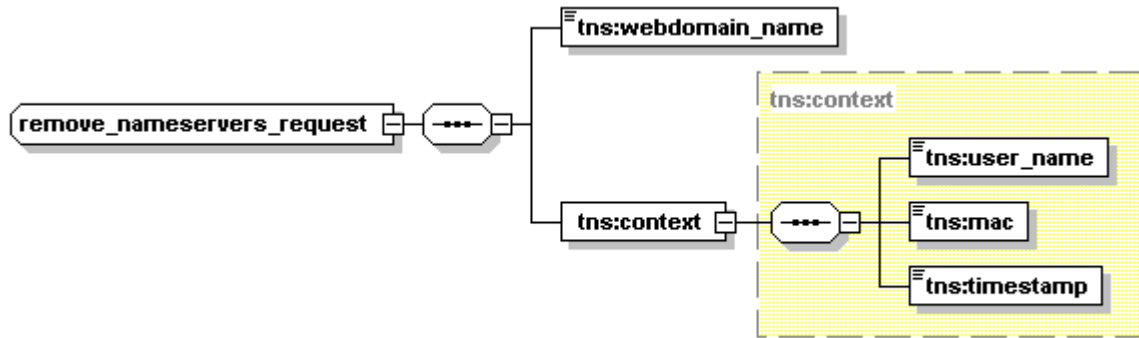
```
<a:webdomain_name>testcompany.fi</a:webdomain_name>
<a:context>
  <a:user_name>ispi1234</a:user_name>
  <a:mac>jdjaouteiooquto</a:mac>
  <a:timestamp>2007-03-29T16:04:33.141904Z</a:timestamp>
</a:context>
```

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### 3.5.3 Request message

The structure of the request message is described in the chart below. The fields are described in Chapter 4.

Information to be sent.



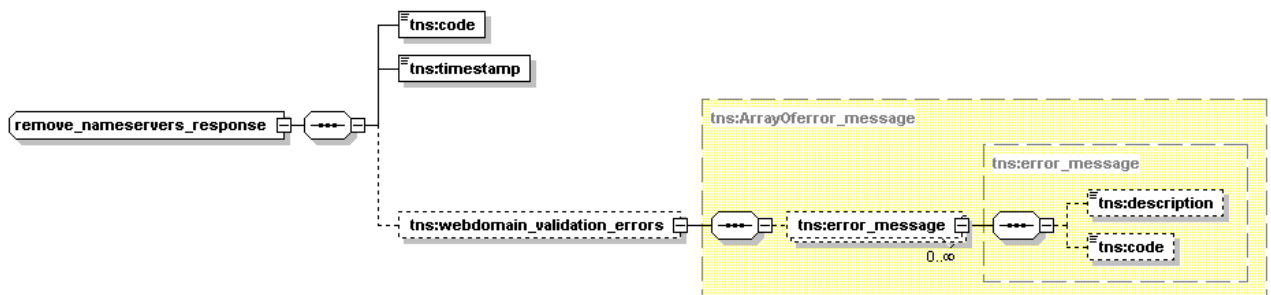
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### 3.5.4 Return message

The structure of the return message is described in the chart below. The fields are described in Chapter 5.

Information returned.



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### 3.6 Renewing a domain name

The Renew Domain Name service can be used to renew one domain name at a time. The service will return any errors in a return message.

#### 3.6.1 Namespaces of the service

Message	Sender	Namespace
Renew call	ISP	http://domainws.ficora.fi.operations/DomainNameWS/Renew
Renew return	FICORA	http://domainws.ficora.fi.operations/DomainNameWS/RenewResponse

#### 3.6.2 Calculating a MAC code

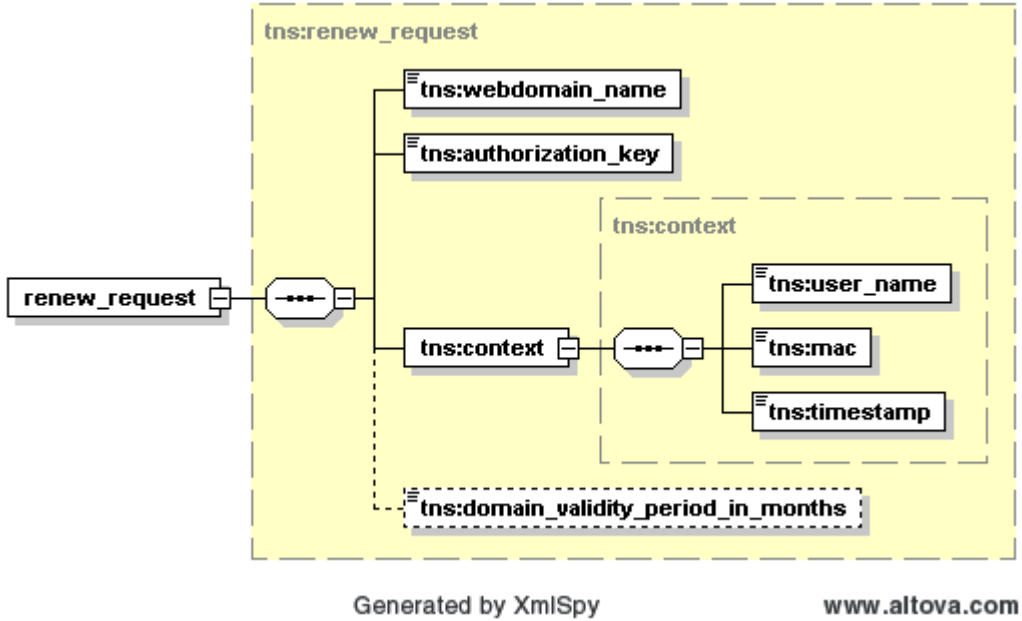
The MAC code is generated from the fields of the XML message as follows:

```
<a:webdomain name>testcompany.fi</a:webdomain name>
<a:authorization key>asdfbasdf</a:authorization key>
<a:context>
  <a:user name>ispi1234</a:user name>
  <a:mac>jdjaouteiooqeuto</a:mac>
  <a:timestamp>2007-03-29T15:48:09.834272Z</a:timestamp>
</a:context>
<a:domain_validity_period_in_months>12</a:domain_validity_period_in_months>
```

Field “domain\_validity\_period\_in\_months” is optional integer type field that can be omitted from the request message. In that case domains new validity period is set to 36 months. Valid values for this field are 12, 36 and 60 (starting from 1<sup>st</sup> of Sept. 2009); any other values will cause an error to be returned.

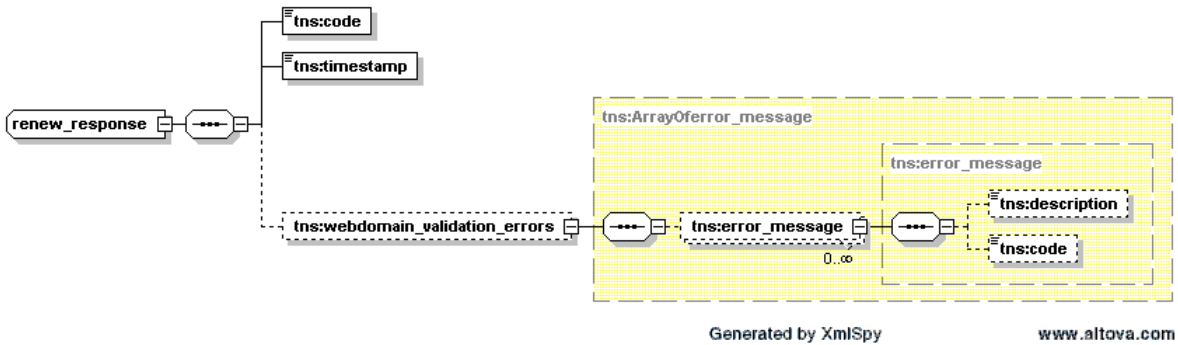
### 3.6.3 Request message

The structure of the request message is described in the chart below. The fields are described in Chapter 4.  
Information to be sent.



### 3.6.4 Return message

The structure of the return message is described in the chart below. The fields are described in Chapter 5.  
Information returned.



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## 4 Information to be sent

### 4.1 Domain name information

According to the Domain Name Act, the applicant for a domain name is responsible for ensuring that the domain name does not violate a protected name or trademark of another party or a name of a natural person. The service provider is an authorized representative of the applicant and is responsible for making the necessary investigations when applying for a domain name on behalf of its customer. The registered names and symbols can be checked from the trade register or the registers of associations and foundations, and the trademarks can be checked from the trademark register of the National Board of Patents and Registration of Finland and from the trademark register of the European Community. The links to the registers can be found on the FICORA Web site, for example.

A domain name shall not include expressions that are insulting or incite to criminal activity. Domain names shall not be applied for with the purpose of keeping them in store or providing them to other parties.

Submitting intentionally false information to an authority's register is a crime, for which a person can be sentenced to a fine or even to imprisonment for up to three years.

Described below are the structure and content of the fields concerning the domain name information as well as the main rules and restrictions related to applying for a domain name.

**webdomain\_name.** The domain name with a .fi ending (such as domainname.fi). A domain name shall include from 2 to 63 characters. The allowed characters include the letters a–z, numbers 0–9 and the hyphen. The national characters å, ä and ö are also allowed. A domain name may not start or end with a hyphen. The third and fourth characters of a domain name may not both be hyphens. However, if a domain name includes national characters å, ä and ö, the third and fourth characters of the ACE (ASCII Compatible Encoding) form of the domain name may both be hyphens. A domain name shall always be applied for in a form that includes the special characters (so-called Scandinavian characters). The application can never be submitted directly in ACE form. A domain name must not be illegally based on a protected name or symbol owned by another party.

**valid\_applicant\_confirmation.** A domain name can only be applied for a company or private person that meets the requirements as defined in the Domain Name Act. When applying for a domain name for a company or organization, this must be a company or a private entrepreneur, a Finnish public body, an unincorporated State enterprise, an independent public corporation or a public association that has been entered into the Finnish trade register or the register of associations or foundations, or a diplomatic mission of a foreign state. When applying for a domain name for a private person, this must be a person who is at least 15 years old with a Finnish personal ID number and domiciled in a Finnish municipality. If the requirements are met, value 1 shall be entered in this field. If the requirements are not met, the application for a domain name is not possible.

**based\_on\_person\_name.** According to the Domain Name Act, an application for a domain name that consists of a combination of a person's first and last names can be made for a company or organization only if this combination is included in the exactly same form in the registered name or trademark of the applicant. For a private person, an application for a domain name that consists of a combination of the person's first and last names can only be

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made if this combination is the applicant's own name. If the domain name consists of the person's first and last names only, value 1 shall be entered in this field. FICORA will check the given information and can revoke an illegal domain name.

If value 1 is entered in the `based_on_person_name` field and the domain name holder is a company, the `person_name_registration_number` field must be completed. The `person_name_registration_id` field is used to enter the register with which the name or symbol corresponding to the domain name is registered. The `person_name_registration_number` field is used to enter the registration number of a name or symbol (such as a business ID or the registration number of a trademark). When applying for a domain name for a private person, the `person_name_registration_number` field is never completed.

**electronic\_notification\_approval.** If the domain name holder consents to allowing the possible suspension and revocation decisions related to the applied domain name to be sent to the domain name holder by e-mail, value 1 shall be entered in this field.

**data\_publishing\_approval.** When applying for a domain name, the given information is entered into FICORA's domain name register and into the customer register of the fi domain name service. Information on the domain name register is given via the Internet. Private persons have the right to deny the publication of their postal addresses and phone numbers in the domain name information. If the information of a private person may be published, value 1 shall be entered in this field. This field is not completed when applying for a domain name for a company or organization.

**domain\_validity\_period\_in\_months.** Domains validity period in months. Domains validity period can be 12 or 36 months.

Data item	Format	Required
<code>webdomain_name</code>		yes
<code>valid_applicant_confirmation</code>	true = yes, false = no	yes
<code>based_on_person_name</code>	true = yes, false = no	yes
<code>person_name_registration_number</code>		yes if <code>based_on_person_name</code> = 1 and the holder is a company
<code>person_name_registration_id</code>	0, if <code>based_on_person_name</code> = 0 1 = Finnish Trade Register 2 = Finnish Register of Associations 3 = Finnish Register of Foundations	yes

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	4 = Finnish Trademark Register 5 = EU Trademark Register	
electronic_notification_approval	true = yes, false = no	yes
data_publishing_approval	true = yes, false = no	no
domain_validity_period_in_months	integer: 12, 36 or 60*	no, if omitted default is 36

\* starting from 1<sup>st</sup> of September 2009

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#### 4.2 Identification information of the domain name holder

The identification information of the holder specifies the legal holder of the domain name.

When applying for a domain name for a company or organization, the `domain_name_holder_company_type` and `domain_name_holder_business_id` fields shall be completed as described below. In this case, the `domain_name_holder_person_id` field is not completed.

`domain_name_holder_company_type`      `domain_name_holder_business_id`

- |                       |                             |
|-----------------------|-----------------------------|
| 1. Company            | Business ID                 |
| 2. Association        | Association register number |
| 3. Foundation         | Business ID                 |
| 4. Political party    | Association register number |
| 5. Municipality       | Business ID                 |
| 6. State              | Business ID                 |
| 7. Public corporation | Business ID                 |

When applying for a domain name for a private person, the personal ID number of the holder shall be entered in the `domain_name_holder_person_id` field. In this case, the `domain_name_holder_business_id` field is not completed.

**NOTE! The correct format and control sign of business IDs and personal ID numbers will be checked. Please take this into account when planning test data.**

Data item	Format	Required
<code>domain_name_holder_company_type</code>	0 = Private person, 1 = Company, 2 = Association, 3 = Foundation, 4 = Political party, 5 = Municipality, 6 = State, 7 = Public corporation	yes
<code>domain_name_holder_business_id</code>	<b>Business ID format:</b> nnnnnnn-n or nnnnnnnn <b>Association register number format:</b> n.nnn or nnnn or nn.nnn or nnnnn or nnn.nnn or nnnnnn	no
<code>domain_name_holder_person_id</code>	The format of the personal ID number is DDMMYYSSNNNC, where:	no

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	DDMMYY Date of birth; day, month and last two digits of the year; leading zeroes used if necessary. S Character that indicates the first two digits of the century; '+' for those born in the 1800s, '-' for those born in the 1900s, and 'A' (upper-case A) for those born in the 2000s. NNN Individual number with leading zeroes. T Control sign.	
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### 4.3 Contact information

All notices related to the domain name, such as a reminder about renewing the domain name or repairing name servers, is sent to the given addresses. If any information is incorrect or out of date, the holder's right to the domain name may be endangered. The given e-mail address is used, for example, to receive a statement from the holder of the domain name and asking him or her for a clarification in case of termination or revocation of a domain name.

Submitting intentionally false information to an authority's register is a crime, for which a person can be sentenced to a fine or even to imprisonment for up to three years.

The contact information is entered into FICORA's domain name register and into the customer register of the fi domain name service. Information on the domain name register is given via various media, such as the Internet.

Three types of contact information can be related to a domain name: the domain name holder's and the renewer's/payer's contact information and the technical contact information. All types of contact information are given using the same fields. The type of contact information to be given is chosen with the type field.

The type field is used to specify the type of contact information.

**Holder** The legal holder of the domain name. When applying for a domain name for a company or organization, the type is 0. When applying for a domain name for a private person, the type is 4. When applying for a domain name for a company or organization, the first\_names and last\_name fields are not completed. When applying for a domain name for a private person, the company and department fields are not completed.

**Renewer/payer** A party to whom the reminder letter about renewing the domain name is sent instead of the holder of the domain name. Note! This information is not required. If the renewer/payer of the domain name is a company or organization, the type is 1. If the renewer/payer is a private person, the type is 5. If the renewer/payer of the domain name is a company or organization, the first\_names and last\_name fields are not completed. If the renewer/payer is a private person, the company and department fields are not completed.

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**Technical** Contact information to which the messages and notices about the name server issues related to the domain name (such as name server check errors) are sent. NOTE! This information is not required. If the domain name's technical contact information is for a company or organization, the type is 2. If the technical contact information is for a private person, the type is 6. If the domain name's technical contact information is for a company or organization, the first\_names and last\_name fields are not completed. If the technical contact information is for a private person, the company and department fields are not completed.

If the contact information of the domain name's renewer/payer or the technical contact information is not given, all messages are sent to the holder.

The language\_code field is used to define the language in which the messages for the given contact information are sent.

Data item	Format	Required
type	0 = holder, 1 = renewer/payer, 2 = technical, 4 = private holder, 5 = private renewer/payer, 6 = private technical	yes
company	String	no
department	String	no
first_names	String	no
last_name	String	no
postal_address	String	yes
postal_code	String	yes
postal_office	String	yes
phone	String	yes
email	name@domain.country	yes
language_code	fi-FI = Finnish, sv-FI = Swedish, en-GB = English	yes

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#### 4.4 Name server information

The name server information for a domain name. There must be from 2 to 10 name servers configured for a domain name.

The IP address of the name server shall only be entered when the domain name to be applied for is included in the name of the name server to be used. IPv6 address is not required even when IPv4 address is. IPv6 address can be omitted completely from the message (for versioning reasons) where as IPv4 address can't be omitted.

Data item	Type	Required
name	String	yes
ipaddress	String	no
ipv6address	String	no (can completely omitted)

#### 4.5 Context information

The context information is presented in the table below. The context includes a user name, a MAC code and a time stamp. The time when the message is sent shall be given as a value for the time stamp. Time stamp must be UTC format (see chapter 2.2).

Data item	Type	Required
user_name	String	yes
mac	String	yes
timestamp	Datetime	yes

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## 5 Information returned

### 5.1 Return message fields

The return message contains information about the successful completion of a request and any errors that may have occurred when performing the request. Errors are represented with an error code and error description using the code and description fields. In this document, the errors are only described at a general level. Actual error descriptions include additional information related, for example, to the domain name, contact information or the name server the error relates to. The purpose of the error description is to explain the error, and it should not be used for the mechanical deduction of the error.

Field	Type	Description
code	Boolean	result of the service request: true / false
timestamp	Datetime	response send time
webdomain_validation_errors	ArrayOferror_message	validation errors related to a domain name
contact_validation_errors	ArrayOferror_message	validation errors related to contact information
nameserver_validation_errors	ArrayOferror_message	validation errors related to name servers
nameserver_technical_errors	ArrayOferror_message	technical errors related to name servers
code	String	error code
description	String	error description

### 5.2 Validation errors related to a domain name

Value	Meaning
SERVICE_NOT_IN_PRODUCTION	Service is not in use
DOMAIN_STATUS_IS_NOT_VALID	The domain name has a status that does not allow it to be renewed
AUTHORIZATIONKEY_NOT_VALID	The authorization key is not valid
DOMAIN_IS_NOT_RENEWABLE	The domain name cannot be renewed due to the validity date of the domain name
PERSON_NAME_REGISTRATION_NUMBER_NOT_FOUND	The registration number of the person name is not found
INVALID_PERSON_NAME_REGISTRATION_NUMBER	The registration number of the person name is not valid

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PERSON_OWNER_NOT_FOUND	The holder information is not found (private)
PERSON_OWNER_UNDER_AGE	The holder is under-aged
COMPANY_OWNER_NOT_FOUND	The holder information is not found (company or organization)
OWNER_NOT_FOUND	The holder information is not found
DOMAIN_NAME_HOLDER_PERSON_ID_NOT_FOUND	The registration ID of the holder is not found
INVALID_DOMAIN_NAME_HOLDER_PERSON_ID	The registration ID of the holder is not valid
INVALID_DOMAIN_NAME_HOLDER_BUSINESS_ID	The registration number of the holder is not valid
INVALID_APPLICANT_CONFIRMATION	The holder's confirmation concerning the right to apply for a domain name is not valid
INVALID_DOMAIN_NAME	The domain name is not valid
NAMESERERS_NOT_UNIQUE	The name servers are not unique
MIN_NAMESERVERS_ERROR	The number of name servers is too low
MAX_NAMESERVERS_ERROR	The number of name servers is too high
CONTACTS_NOT_UNIQUE	The contact information is not unique
MIN_CONTACTS_ERROR	The number of contact information is too low
MAX_CONTACTS_ERROR	The number of contact information is too high
DOMAIN_NAME_IS_RESERVED	The domain name is reserved
DOMAIN_NAME_IS_FORBIDDEN	The domain name is in the list of forbidden domain names
AUTHORIZATIONKEY_IS_NOT_VALID	The authorization key is not valid
ACCOUNT_BALANCE_EXCEEDED	Not enough money at account
DOMAIN_NOT_FOUND	Domain name could not be found
ISP_NAMESERVERS_NOT_FOUND	No ISP name servers could be found from the domain
MULTIPLE_DOMAIN_OWNERS	Domain contacts contains both private and company holder
INVALID_VALIDITY_PERIOD	Given validity period for domain is not valid value.

### 5.3 Validation errors related to contact information

Value	Meaning
INVALID_CONTACT_TYPE	The type of contact information is not valid
INVALID_COMPANY_NAME	The company or organization name is not valid
INVALID_DEPARTMENT_NAME	The department name is not valid
INVALID_FIRST_NAMES	The first names are not valid

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INVALID_LAST_NAME	The last name is not valid
INVALID_PHONE	The phone number is not valid
INVALID_POSTAL_ADDRESS	The address is not valid
INVALID_POST_OFFICE	The post office is not valid
INVALID_POSTAL_CODE	The postal code is not valid
INVALID_EMAIL	The e-mail address is not valid
INVALID_LANGUAGE	The language code is not valid

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#### 5.4 Validation errors related to name servers

Value	Meaning
INVALID_IP_FORMAT	The IP format is not valid
NAME_TOO_LONG	The name is too long
NAME_MUST_CONTAIN_DOT	The name does not contain a dot (.)
NAME_STARTS_WITH_HYPHEN	The name starts with a hyphen (-)
INVALID_NAME	The name is not valid
NAME_HAS_INVALID_CHARACTERS	The name contains invalid characters
INVALID_IPv6_FORMAT	The IPv6 address format is not valid

#### 5.5 Technical errors related to name servers

Value	Meaning
RESOLVER_ERROR	Failed to resolve the name of the name server
NAMESERVER_CANNOT_BE_FOUND	The name server is not found
ILLEGAL_IP_ADDRESS	The IP address is not valid
TIMEOUT	The name server does not respond
ILLEGAL_SOA_RECORD	The SOA record is not valid
SOA_RECORD_MISSING	The SOA record is missing
ILLEGAL_MNAME_IN_SOA_RECORD	The MNAME section of the SOA record is not valid
ILLEGAL_EMAIL_IN_SOA_RECORD	The EMAIL section of the SOA record is not valid
ILLEGAL_SERIAL_NUMBER_IN_SOA_RECORD	The serial number of the SOA record is not valid
ILLEGAL_TIMER_VALUE_IN_SOA_RECORD	The value of the TIMER section of the SOA record is not valid
NONE_RETURNED_NS_RECORDS_IS_SOA_MNAME	The name server records are missing in the MNAME section of the SOA record
NAMESERVER_RETURNED_UNEXPECTED_NS_RECORD	The name server returned an unexpected name server record
NO_A_RECORD_FOR_SERVER_OR_ILLEGAL_IP_ADDRESS	The A record is missing or the IP address is not valid
MAIL_SERVER_NOT_FOUND	The e-mail server is not found
NO_A_RECORD_FOR_SERVER_OR_ILLEGAL_IP_ADDRESS_MX	The A record is missing or the IP address of the MX record is not valid
MX_RECORD_MISSING	The MX record is missing
SOA_RECORD_SERIAL_NUMBER_DIFFERS_FROM_PREVIOUS_SERVER	The serial numbers for the SOA record are different

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