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New EPP Parameters for the usTLD

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Abstract

This document defines two new EPP parameters to enable the exchange of additional information between the registry and the registrars for the United States ccTLD (usTLD). These two new parameters only apply to contact objects served as registrants for usTLD domains. This is accomplished according to the EPP extension framework in the command-response <extension> field.

Terminology

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[2].

In examples, "C:" represents lines sent by a protocol client and "S:" represents lines returned by a protocol server. Indentation and white space in examples is provided only to show element relationships and is not a REQUIRED feature of the protocol.

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1. Introduction

EPP (i.e., Extensible Provisioning Protocol) defines an extensible registry-registrar protocol for domain name registrations. It consists of a suite of documents: the generic protocol framework [3], and the object mappings for domain, host and contact [4-6], and the transport mapping to TCP [7].

The EPP extension framework allows registry specific features to be added at three levels: protocol, object and command-response [3]. The extensions made to EPP for the usTLD is at the command-

response level. Specifically, two new information elements are
added to the <extension> field in the contact object.

The intent of this document is to specify the protocol elements in
EPP extensions in order to accommodate additional information
required for a registrar to interconnect with the usTLD registry
via an EPP-compatible interface. Specifically, the document

defines two new EPP parameters for contact objects to be used as
registrants for usTLD domains. The first parameter describes the
intended purpose of the domain name, while the second specifies
the Nexus category to which the registering organization belongs.
Both are defined as parameters within the command-response
<extension> field for the contact object [6], according to the EPP
extension framework outlined in [3].

For more information about usTLD and Nexus requirements, please
refer to [8] and [9].

2. EPP Extensions for the usTLD

The EPP extensions for the usTLD are in the contact object mapping
[5] at the command-response level. The extension template for the
contact object is outlined below.

```
C: <EPPCommandName>
C:  <contact:command
     xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
C:   xsi:schemaLocation="urn:ietf:params:xml:ns:contact
      contact-1.0.xsd">
C:    <!-- One or more contact-specific command elements. -->
C:  </contact:command>
C:  <extension>
C:    <!-- One or more server-defined elements. -->
C:  </extension>
C:  <trID>
C:    <clTRID>ABC-12345</clTRID>
C:  </trID>
C: </EPPCommandName>

S:<response>
S:  <result code="1000">
S:    <msg lang="en">Command completed successfully</msg>
S:  </result>
S:  <extension>
S:    <!-- One or more server-defined elements. -->
```

```
S:  </extension>
S:  <trID>
S:    <clTRID>ABC-12345</clTRID>
S:    <svTRID>54321-XYZ</svTRID>
S:  </trID>
S:</response>
```

The extensions for the usTLD are accomplished by defining two new
elements within the <extension> field. Three EPP commands are
affected by the extensions for the contact object.

3. **Server-Defined Elements**

Two parameters are defined for conveying information in the
<extension> field; AppPurpose and NexusCategory. They are
specified as name-value pairs within <extension> as follows:

```
<extension>
AppPurpose=value
NexusCategory=value
</extension>
```

Here ôvalueö is a character string to be defined in Sections 3.1
and 3.2, respectively. When both parameters are present in the
<extension> field, they are separated by at least one white space
character.

3.1 AppPurpose Parameter

The AppPurpose (i.e., Application Purpose) parameter specifies the
intended usage for the domain name. The set of defined values for
this parameter is:

- ôP1ö: Business use for profit;

- ôP2ö: Non-profit business, club, association, religious
   organization, etc.;

- ôP3ö: Personal use;

- ôP4ö: Educational purposes;

- ôP5ö: Government purposes.

3.2   Nexus Parameter

Qualifying registrants for the usTLD fall into one of the three
categories:

- Nexus Category 1

  A natural person (i) who is a US citizen, (ii) a permanent
  resident of the US or any of its possessions or territories, or
  (iii) whose primary place of domicile is in the US or any of
  its possessions.

- Nexus Category 2

  An entity or organization that is (i) incorporated within one
  of the fifty US states, the District of Columbia, or any of the
  US possessions or territories, or (ii) organized or otherwise
  constituted under the laws of a state of the US, the District
  of Columbia or any of its possessions and territories
  (including federal, state, or local government of the US, or a
  political subdivision thereof, and non-commercial organizations
  based in the US.)

- Nexus Category 3

  A foreign entity or organization that has a bona fide presence
  in the US or any of its possessions or territories, and that
  has substantial lawful contacts with, or lawful activities in,
  the US.

   Nexus information is required for the registrants to ensure that
   only those individuals or organizations that have a substantive
   lawful connection to the US are permitted to register for usTLD
   domain names.

   The NexusCategory parameter specifies the Nexus category or sub-
   category to which the registrant belongs. The set of defined
   values for this parameter is:

   - ôC11ö: A natural person who is a US Citizen;

   - ôC12ö: A natural person who is a Permanent Resident;

- ôC21ö: An entity or organization that is (i) incorporated
     within one of the fifty US states, the District of Columbia, or
     any of the US possessions or territories, or (ii) organized or
     otherwise constituted under the laws of a state of the US, the
     District of Columbia or any of its possessions and territories
     (including federal, state, or local government of the US, or a
     political subdivision thereof, and non-commercial organizations
     based in the US.)

   - ôC31/CCö: a foreign organization that regularly engages in
     lawful activities (sales of goods or services or other
     business, commercial, or non-commercial, including not for
     profit relations) in the United States. The CC equals to the
     country code of the organization, as defined in ISO 3166 [10].

   - ôC32/CCö organization has an office or other facility in the
     U.S., where CC equals to the county code of the organization,
     as defined in ISO 3166 [10].

   C11 and C12 are sub-categories of Nexus Category 1. C21 is Nexus
   Category 2. C31 and C32 are sub-categories of Nexus Category 3.

   Note that the third sub-category of Nexus Category 1, i.e., ôA
   natural person whose primary place of domicile is in the US or any
   of its possessions,ö is not qualified to register domain names
   under usTLD.

4. EPP Commands

   Three EPP commands are involved in the exchange of usTLD
   parameters between the registry and the registrars. They all apply
   only to those contact objects that are to be used as registrants
   for the usTLD domains.

   - <contact:create> command. At the time of creating a contact
     object for a registrant, usTLD parameters MUST be provided.

   - <contact:update> command. It can be used to modify usTLD
     parameters in a contact object that has already been created
     for a usTLD registrant.

   - <contact:info> command. It can be use to retrieve usTLD
     parameters associated with a contact object for a usTLD
     registrant.

Regarding updating the usTLD parameters on a contact object using
<contact:update>, the following behaviors are assumed by the
registry:

- If no <extension> field, or only an empty <extension> field
  such as <extension/> or <extension></extension> is present in
  the command, no action is taken by the registry. That is, the
  current value of either usTLD parameters, if exists, remain
  unchanged.

- If either parameter is present in the <extension> field of the
  command as a ôparameter=valueö pair and the value is not null,
  e.g.,

     <extension>AppPurpose=P1</extension>

  the registry will replace the value of the corresponding
  parameter in the contact object with the value supplied in the
  command.

- If either parameter is present in the <extension> field in the
  command as a ôparameter=valueö pair and the value is null,
  e.g.,

     <extension>AppPurpose=</extension>

  the registry will remove the corresponding parameter from the
  contact object.

- If either parameter does not appear in the <extension> field of
  the command, the current value of the parameter, if exists,
  remain unchanged.

Please refer to Section 5 for restrictions on update and removal of
usTLD parameters for a contact object as registrant of a usTLD
domain.

When a contact object is associated with a usTLD domain, three other
EPP commands corresponding to the domain object are also involved:
<domain:create>, <domain:update> and <domain:info>. Please see
Section 5 below.

5. Information Checking

The two new usTLD parameters defined in Section 3 only apply to
contact objects as registrants. Other contact objects, such as
administrative and billing contacts, do not REQUIRE the provision
of such information.

The intended usage of a contact object is identified when it is
associated with a domain object. The two usTLD parameters will be
checked by the registry server at the time when a contact object

is associated with a usTLD domain object as the registrant.

Sepcifically, when the contact object is associated with a domain
object as registrant in a <domain:create> or <domain:update>
command, if AppPurpose or NexusCategory does not exist for the
contact object, an EPP result code 2304 "Object status prohibits
operation" SHOULD be returned. Moreover, if the value of

AppPurpose or NexusCategory is not valid, an EPP result code 2306
"Parameter value policy error" SHOULD be returned [3].

Note that usTLD information checking for a contact object is done
only when it is associated with a domain name as registrant, not
at the time the contact object is created. It is the role of
registrant that stipulates the provision of the two usTLD
parameters for the contact object.

Once a contact object is associated with a registered usTLD domain
as registrant, both usTLD parameters MUST be present at all time.
A registrar MUST NOT use <contact:update> to remove either
parameters, otherwise an EPP result code 2304 "Object status
prohibits operation" SHOULD be returned. If the <contact:update>
command results in an invalid value for AppPurpose or
NexusCategory, an EPP result code 2306 "Parameter value policy
error" SHOULD be returned [3].

6. Examples

The following are examples of the EPP extensions for the usTLD.
They are for illustrative purpose only.

Example 1: Creating a contact object:

```
C: <?xml version="1.0" encoding="UTF-8"?>
C: <epp xmlns="urn:ietf:params:xml:ns:epp-1.0"
        xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
        xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0
          epp-1.0.xsd">
C: <command>
C:  <create>
C:   <contact:create xmlns="urn:ietf:params:xml:ns:contact-1.0"
         xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
         xsi:schemaLocation="urn:ietf:params:xml:ns:contact-1.0
             contact-1.0.xsd">
C:     <contact:id>abcde</contact:id>
C:     <contact:ascii>
```

```
C:      <contact:name>abc</contact:name>
C:      <contact:org>abc.org</contact:org>
C:      <contact:addr>
C:       <contact:street>123 d street</contact:street>
C:       <contact:city>reston</contact:city>
C:       <contact:pc>20194</contact:pc>
C:       <contact:sp>VA</contact:sp>
C:       <contact:cc>US</contact:cc>
C:      </contact:addr>
C:     </contact:ascii>
C:     <contact:fax x="1234">+1.2345678901</contact:fax>
C:     <contact:email>xxx@yyy.com</contact:email>
C:     <contact:authInfo type="pw">123456</contact:authInfo>
C:    </contact:create>
C:   </create>
C:   <extension>AppPurpose=P1 NexusCategory=C31/DE</extention>
C:   <clTRID>coricopat-9978-1002</clTRID>
C: </command>
C: </epp>
```

Here the usTLD extensions convey that the registrant intends to
use the domain name for business purposes and the company is a
German company that has an office or other facility in the U.S.

Example 2: Updating information:

```
C: <?xml version="1.0" encoding="UTF-8"?>
C: <epp xmlns="urn:iana:xml:ns:epp-1.0"
C:       xmlns:xsi=http://www.w3.org/2001/XMLSchema-instance
C:       xsi:schemaLocation="urn:iana:xml:ns:epp-1.0 epp-1.0.xsd">
C: <command>
C:  <update>
C:   <contact:update xmlns="urn:ietf:params:xml:ns:contact-1.0"
C:      xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
C:      xsi:schemaLocation="urn:ietf:params:xml:ns:contact-1.0
C:        contact-1.0.xsd">
C:     <contact:id>abc</contact:id>
C:     <contact:chg>
C:      <contact:voice>+1.2345678910</contact:voice>
C:     </contact:chg>
C:    </contact:update>
C:   </update>
C:   <extension>AppPurpose=P3 NexusCategory=C11</extension>
C:   <clTRID>coricopat-28444-1005</clTRID>
C: </command>
```

```
C: </epp>
```

This command will update the contact object with modifications as
follows: itÆs intended for personal use and the registrant is a US
citizen.

Example 3: usTLD information in the response of <contact:info>.

```
S: <?xml version="1.0" encoding="UTF-8" standalone="no"?>
S: <epp xmlns="urn:ietf:params:xml:ns:epp-1.0"
S:     xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
S:     xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0
S:        epp-1.0.xsd">
S: <response>
S:  <result code="1000">
S:     <msg>Command completed successfully</msg>
S:  </result>
S:  <resData>
S:   <contact:infData
S:        xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
S:        xsi:schemaLocation="urn:ietf:params:xml:ns:contact-1.0
S:           contact-1.0.xsd">
S:     <contact:id>abcde</contact:id>
S:     <contact:roid>ABCDE-US</contact:roid>
S:     <contact:status s="linked"/>
S:     <contact:status s="clientDeleteProhibited"/>
S:     <contact:postalInfo>
S:      <contact:name>abc</contact:name>
S:      <contact:org>abc.org</contact:org>
S:      <contact:addr>
S:       <contact:street>123 d street</contact:street>
S:       <contact:city>reston</contact:city>
S:       <contact:pc>20194</contact:pc>
S:       <contact:sp>VA</contact:sp>
S:       <contact:cc>US</contact:cc>
```

```
S:      </contact:addr>
S:     </contact:postalInfo>
S:     <contact:fax x="1234">+1.2345678901</contact:fax>
S:     <contact:email>xxx@yyy.com</contact:email>
S:     <contact:clID>ClientY</contact:clID>
S:     <contact:crID>ClientX</contact:crID>
S:     <contact:crDate>2002-04-03T22:00:00.0Z</contact:crDate>
S:     <contact:upID>ClientX</contact:upID>
S:     <contact:upDate>2002-12-03T09:00:00.0Z</contact:upDate>
S:     <contact:trDate>2000-04-08T09:00:00.0Z</contact:trDate>
```

```
S:    <contact:authInfo type="pw">123456</contact:authInfo>
S:   </contact:infData>
S:  </resData>
S:  <extension>AppPurpose=P1 NexusCategory=C11</extension>
S:  <trID>
S:    <clTRID>coricopat-9978-1003</clTRID>
S:    <svTRID>54322-XYZ</svTRID>
S:  </trID>
S: </response>
S: </epp>
```

Here the Nexus information returned indicates that the registrant
registered the domain in .usTLD for business for profit and he/she
is an US citizen. The <authInfo> element may not be returned if
the querying registrar is not the sponsoring registrar.

7. Internationalization Considerations

The new parameters defined in this document are for usTLD only.
They do not introduce any additional international considerations
other than those specified for EPP contact object mapping [5].

8. IANA Considerations

The new parameters defined in this document do not require IANA
registrations.

9. Security Considerations

The new parameters defined in this document do not provide any
other security services or introduce any additional considerations
beyond those described in EPP contact object mapping [5]

10. Acknowledgements

[TBD]

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