Internet Council of Registrars

Domain Privacy EPP Extension for the CORE Registration System

CORE Association

1. Extension for Domain-Based Privacy

The CORE Registration System provides a proprietary EPP extension for domain-based privacy settings.

1.1 Introduction

This document describes an extension mapping for version 1.0 of the Extensible Provisioning Protocol (EPP) described in RFC 5730. This mapping is an extension of the domain name mapping described in RFC 5731. It is specified using the Extensible Markup Language (XML) and XML Schema notation.

This extension serves the purpose of specifying domain-based privacy settings determining public domain data disclosure (e.g. in Whois output) for top level domains that support domain-based privacy.

For each domain, the extension allows to specify whether the registrant is a natural person or a legal entity (such as a company). In the case of a legal entity, full disclosure of domain data is mandatory and cannot be disabled. In the case of a natural person, the disclosure of domain data may be granted or disallowed by the registrant.

If a top level domain registry uses domain-based privacy settings, a domain's registrant type ("natural" or "legal") and privacy setting must be specified when creating the domain with the <domain:create> EPP command. This information may be changed later using the <domain:update> EPP command. The current settings present in a domain may be inquired using the <domain:info> command.

1.2 EPP Command Mapping

This section deals with the specific command mappings for the EPP extension for domain-based privacy.

In the following, the respective root elements of the extensions are mentioned. If used, they must be placed or expected within the optional <extension> element at the proper location in the XML document representing the EPP command or response, as described in RFC 5730. Note that the use of the "prv:" XML namespace prefix is for documentation purposes only. Conforming to the "Namespaces in XML 1.1" standard, EPP and the registry implementation take only the associated namespace URI into account, and not the prefix itself. So actually any prefix or even the default namespace may be used in requests and must be expected in responses.

The privacy extension is only used in relation to domain objects. It will not occur in commands that are related to host and contact objects.

1.2.1 EPP Query Commands

There are four EPP commands to retrieve object information: <check> to find out whether an object is known to the server, <info> to ask for detailed information associated with an object, <poll> to discover and retrieve queued service messages for individual clients and <transfer> to get transfer status information for an object.

1.2.1.1 EPP <domain:check> Command

This extension does not add any element to the EPP <check> command.

1.2.1.2 EPP <domain:info> Command

The privacy extension does not provide an element for the info command. Additional elements are defined for the <info> response. When an <info> command has been processed successfully, the EPP <extension> element in the response contains a child <prv:infData> element that identifies the privacy extension namespace. The <prv:infData> element contains a <prv:disclosure> element, which informs about the domain's current registrant type and its privacy setting.

The <prv:disclosure> element either contains an empty <prv:legal> element (indicating that the registrant is a legal entity) or an empty <prv:natural> element (indicating that the registrant is a natural person). In the latter case, the <prv:natural> element contains a "disclose" attribute that contains "true" if data may be disclosed, or "false" if data must not be disclosed.

An example of an <info> response containing the extension can be found in the "Examples" section below.

1.2.1.3 EPP <poll> Command

This extension does not add any element to the EPP <poll> command.

1.2.1.4 EPP <transfer> Query Command

This extension does not add any element to the EPP <transfer> query command.

1.2.2 EPP Transform Commands

There are five EPP commands to transform objects: <create> to create an instance of an object, <delete> to delete an instance of an object, <renew> to extend the validity period of an object, <transfer> to manage object sponsorship changes and <update> to change information associated with an object.

1.2.2.1 EPP <domain:create> Command

The create command, which allows the registration of domain objects, or, during a registry's sunrise and landrush phases, the application for domain objects, can be augmented by a <prv:create> element in the extension section of the command that identifies the privacy extension namespace. The <prv:create> element must contain a <prv:disclosure> element, which specifies the domain's registrant type and its privacy setting.

The <prv:disclosure> element must either contain an empty <prv:legal> element (indicating that the registrant is a legal entity) or an empty <prv:natural> element (indicating that the registrant is a natural person). In the latter case, the <prv:natural> element must contains a "disclose" attribute that contains "true" if data may be disclosed, or "false" if data must not be disclosed.

An example of a <create> command using the extension can be found in the "Examples" section below.

1.2.2.2 EPP <domain:delete> Command

There are no extension elements for the domain delete command and response.

1.2.2.3 EPP <domain:renew> Command

There are no extension elements for the renew command and response.

1.2.2.4 EPP <domain:transfer> Command

There are no extension elements for the transfer command and response.

1.2.2.5 EPP <domain:update> Command

For the domain update command, extension elements exist for the command, allowing to change the privacy setting for an existing domain. This is done by using a <prv:update> element in the extension section of the command that identifies the privacy extension namespace. The <prv:update> element must contain a <prv:chg> element, which in turn must contain a <prv:disclosure> element, which specifies the domain's new registrant type and/or its privacy setting.

The <prv:disclosure> element must either contain an empty <prv:legal> element (indicating that the registrant is a legal entity) or an empty <prv:natural> element (indicating that the registrant is a natural person). In the latter case, the <prv:natural> element must contains a "disclose" attribute that contains "true" if data may be disclosed, or "false" if data must not be disclosed.

1.3 Formal Syntax (Schema Definition)

```
<?xml version="1.0" encoding="UTF-8"?>
<schema targetNamespace="http://xmlns.corenic.net/epp/privacy-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:prv="http://xmlns.corenic.net/epp/privacy-1.0"
  elementFormDefault="qualified"
  attributeFormDefault="unqualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      extension schema for per-domain privacy settings
    </documentation>
  </annotation>


  <!-- child elements found in EPP commands -->

  <element name="create" type="prv:createType"/>
  <element name="update" type="prv:updateType"/>

  <!-- child elements found in EPP responses -->

  <element name="infData" type="prv:infDataType"/>


  <!-- create extension -->

  <complexType name="createType">
    <sequence>
      <element name="disclosure" type="prv:disclosureType"/>
    </sequence>
  </complexType>

  <complexType name="disclosureType">
    <sequence>
      <choice>
        <element name="natural" type="prv:naturalType"/>
        <element name="legal" type="prv:legalType"/>
      </choice>
    </sequence>
  </complexType>

  <complexType name="naturalType">
    <attribute name="disclose" type="boolean" use="required"/>
  </complexType>

  <complexType name="legalType">
    <!-- intentionally left empty -->
  </complexType>


  <!-- update extension -->

  <complexType name="updateType">
    <sequence>
      <element name="chg" type="prv:chgType"/>
    </sequence>
  </complexType>
```

```
  <complexType name="chgType">
    <sequence>
      <element name="disclosure" type="prv:disclosureType"/>
    </sequence>
  </complexType>


  <!-- info extension -->

  <complexType name="infDataType">
    <sequence>
      <element name="disclosure" type="prv:disclosureType"/>
    </sequence>
  </complexType>

</schema>
```

1.4 Examples

In the following examples, "C:" represents lines sent by an EPP client and "S:" represents lines returned by the EPP server.

1.4.1 EPP <info> Command

1.4.1.1 Example <info> response with privacy information:

```
S:<?xml version='1.0' encoding='UTF-8'?>
S:<epp xmlns='urn:ietf:params:xml:ns:epp-1.0'>
S:  <response>
S:    <result code='1000'>
S:      <msg lang='en-US'>Command completed successfully</msg>
S:    </result>
S:    <resData>
S:      <infData xmlns='urn:ietf:params:xml:ns:domain-1.0'>
S:        <name>example.tld</name>
S:        <roid>D123456789</roid>
S:        <status s='active'/>
S:        <registrant>abc123</registrant>
S:        <contact type='admin'>def456</contact>
S:        <contacttype='tech'>ghi789</contact>
S:        <ns>
S:          <hostObj>ns1.example.net</hostObj>
S:          <hostObj>ns2.example.net</hostObj>
S:        </ns>
S:        <clID>registrar</clID>
S:        <crID>registrar</crID>
S:        <crDate>2010-09-08T07:06:05.0Z</crDate>
S:        <exDate>2012-09-08T23:59:59.0Z</exDate>
S:        <authInfo>
S:          <pw>secret</pw>
S:        </authInfo>
S:      </infData>
S:    </resData>
S:    <extension>
S:      <prv:infData xmlns:prv="http://xmlns.corenic.net/epp/privacy-1.0">
S:        <prv:disclosure>
S:          <prv:natural disclose="true"/>
```

```
S:        </prv:disclosure>
S:      </prv:infData>
S:    </extension>
S:    <trID>
S:      <svTRID>ZYX-99958</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

This domain's registrant is a natural person who allows data disclosure.

1.4.2 EPP <create> Command

1.4.2.1 Example <create> command specifying privacy information:

```
C:<?xml version="1.0" encoding="UTF-8"?>
C:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
C:  <command>
C:    <create>
C:      <create xmlns="urn:ietf:params:xml:ns:domain-1.0">
C:        <name>example.tld</name>
C:        <period unit="y">1</period>
C:        <ns>
C:          <hostObj>ns1.example.net</hostObj>
C:          <hostObj>ns2.example.net</hostObj>
C:        </ns>
C:        <registrant>abc123</registrant>
C:        <contact type="admin">def456</contact>
C:        <contact type="tech">ghi789</contact>
C:        <authInfo>
C:          <pw>secret42</pw>
C:        </authInfo>
C:      </create>
C:    </create>
C:    <extension>
C:      <prv:create xmlns:prv="http://xmlns.corenic.net/epp/privacy-1.0">
C:        <prv:disclosure>
C:          <prv:natural disclose="false"/>
C:        </prv:disclosure>
C:      </prv:create>
C:    </extension>
C:    <clTRID>abc-00042</clTRID>
C:  </command>
C:</epp>
```

This domain's registrant is a natural person who does not allow data disclosure.

1.4.3 EPP <update> Command

1.4.3.1 Example <update> command changing the privacy setting of a domain:

```
C:<?xml version="1.0" encoding="UTF-8"?>
C:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
C:  <command>
C:    <update>
C:      <update xmlns="urn:ietf:params:xml:ns:domain-1.0">
```

```
C:        <name>example.tld</name>
C:        <chg/>
C:      </update>
C:    </update>
C:    <extension>
C:      <prv:update xmlns:prv="http://xmlns.corenic.net/epp/privacy-1.0">
C:        <prv:chg>
C:          <prv:disclosure>
C:            <prv:legal/>
C:          </prv:disclosure>
C:        </prv:chg>
C:      </prv:update>
C:    </extension>
C:    <clTRID>abc-00042</clTRID>
C:  </command>
C:</epp>
```

This domain's registrant is a legal person.