EXTENSIBLE PROVISIONING PROTOCOL EXTENSION MAPPING: <PERSONAL REGISTRATION>

Version 1.2

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1 Introduction

This document describes an personal registration mapping for version 1.0 of the Extensible Provisioning Protocol (EPP). This mapping, an extension of the domain name mapping described in [EPP-D], and an extension of the email forwarding mapping described in [EPP-E], is specified using the Extensible Markup Language (XML) 1.0 as described in [XML] and XML Schema notation as described in [XMLS-1] and [XMLS-2].

[EPP] provides a complete description of EPP command and response structures. A thorough understanding of the base protocol specification is necessary to understand the mapping described in is document.

XML is case sensitive. Unless stated otherwise, XML specifications and examples provided in this document MUST be interpreted in the character case presented to develop a conforming implementation.

2 Object Attributes

This extension adds additional elements to the domain name mapping described in [EPP-D] and the email forwarding mapping described in [EPP-E]. The term personal registration stands for either a domain name or an email forwarding address. The term corresponding service stands for the opposite Personal Registration. For example, the corresponding service for a domain name is email forwarding address, and the corresponding service for email forwarding address is a domain name. Only new element descriptions are described here.

2.1 Consent Identifier

The consent identifier is used to register personal registrations that conflict with defensive registration described in [EPP-DR]. A consent identifier is supplied out-of-band to a specific registrar and for a specific personal registration. The registry must validate that the consent identifier against the registrar and the personal registration.

2.2 Bundle Rate Flag

The bundle rate flag indicates that a personal registration was charged at a bundled rate. When a bundle is charged, the original corresponding service is credited.

3 EPP Command Mapping

A detailed description of the EPP syntax and semantics can be found in [EPP]. The command mappings described here are specifically for use in provisioning and managing personal registrations using a consent identifier and a bundled rate flag via EPP.

3.1 EPP Query Commands

EPP provides three commands to retrieve object information: <check> to determine if an object is known to the server, <info> to retrieve detailed information associated with an object, and <transfer> to retrieve object transfer status information.

3.1.1 EPP <check> Command

This extension does not add any elements to the EPP <check> command or <check> response described in [EPP-D] and [EPP-E].

3.1.2 EPP <info> Command

This extension does not add any elements to the EPP <info> command described in [EPP-D] and [EPP-E]. Additional elements are defined for the <info> response.

When an <info> command has been processed successfully, the EPP <infData> element MUST contain child elements as described in [EPP-D] and [EPP-E]. In addition, the EPP <extension> element MUST contain a child <persReg:infData> element that contain the following child elements:

- An <persReg:consentID> element that contains a consent identifier used with the <create> command.

Example <info> response:

```
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:      <emailFwd:infData
S:       xmlns:emailFwd="http://www.nic.name/epp/emailFwd-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/emailFwd-1.0
S:       emailFwd-1.0.xsd">
S:        <emailFwd:name>john@doe.name</emailFwd:name>
S:        <emailFwd:roid>EXAMPLE1-VRSN</emailFwd:roid>
S:        <emailFwd:status s="ok"/>
S:        <emailFwd:registrant>jd1234</emailFwd:registrant>
S:        <emailFwd:contact type="admin">sh8013</emailFwd:contact>
S:        <emailFwd:contact type="tech">sh8013</emailFwd:contact>
S:        <emailFwd:fwdTo>jdoe@example.com</emailFwd:fwdTo>
S:        <emailFwd:clID>ClientX</emailFwd:clID>
S:        <emailFwd:crID>ClientY</emailFwd:crID>
S:        <emailFwd:crDate>1999-04-03T22:00:00.0Z</emailFwd:crDate>
S:        <emailFwd:upID>ClientX</emailFwd:upID>
S:        <emailFwd:upDate>1999-12-03T09:00:00.0Z</emailFwd:upDate>
S:        <emailFwd:exDate>2005-04-03T22:00:00.0Z</emailFwd:exDate>
S:        <emailFwd:trDate>2000-04-08T09:00:00.0Z</emailFwd:trDate>
S:        <emailFwd:authInfo>
S:            <emailFwd:pw>2fooBAR</emailFwd:pw>
S:        </emailFwd:authInfo>
S:      </emailFwd:infData>
S:    </resData>
S:    <extension>
S:      <persReg:infData xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
S:       persReg-1.0.xsd">
S:          <persReg:consentID>ID:12345</persReg:consentID>
S:      </persReg:infData>
S:    </extension>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
```

```
S:          <svTRID>54322-XYZ</svTRID>
S:      </trID>
S:   </response>
S:</epp>
```

3.1.3 EPP <transfer> Command

This extension does not add any elements to the EPP <transfer> query command or <transfer> query response described in [EPP-D] and [EPP-E].

3.2 EPP Transform Commands

EPP provides five 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.

3.2.1 EPP <create> Command

This extension defines additional elements for the EPP <create> command and response described in [EPP-D] and [EPP-E].

The EPP <create> command provides a transform operation that allows a client to create a domain object and email forwarding object. In addition to the EPP command elements described in [EPP-D] and [EPP-E], the command MUST contain an <extension> element. The <extension> element MUST contain a child <persReg:create> element that contains the following child elements:

 - An <persReg:consentID> element that contains a consent identifier.

Example <create> command:

```
C:<?xml version="1.0" encoding="UTF-8" standalone="no"?>
C:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0"
C:    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
C:    xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0
C:    epp-1.0.xsd">
C:  <command>
C:    <create>
C:      <emailFwd:create
C:       xmlns:emailFwd="http://www.nic.name/epp/emailFwd-1.0"
C:       xsi:schemaLocation="http://www.nic.name/epp/emailFwd-1.0
C:       emailFwd-1.0.xsd">
C:        <emailFwd:name>john@doe.name</emailFwd:name>
C:        <emailFwd:fwdTo>jdoe@example.com</emailFwd:fwdTo>
C:        <emailFwd:period unit="y">2</emailFwd:period>
C:        <emailFwd:registrant>jd1234</emailFwd:registrant>
C:        <emailFwd:contact type="admin">sh8013</emailFwd:contact>
C:        <emailFwd:contact type="tech">sh8013</emailFwd:contact>
C:        <emailFwd:authInfo>
C:            <emailFwd:pw>2fooBAR</emailFwd:pw>
C:        </emailFwd:authInfo>
C:      </emailFwd:create>
C:    </create>C:    <extension>
C:      <persReg:create
C:       xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
C:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
C:       persReg-1.0.xsd">
C:          <persReg:consentID>ID:12345</persReg:consentID>
C:      </persReg:create>
C:    </extension>
C:    <clTRID>ABC-12345</clTRID>
C:  </command>
C:</epp>
```

When an <create> command has been processed successfully, the EPP <creData> element MUST contain child elements as described in [EPP-D] and [EPP-E]. In addition, the EPP <extension> element MUST contain a child <persReg:creData> element that contains the following child elements:

  - An <persReg:bundledRate> element that contains a boolean value indicated if the bundled rate was charged.

Example <create> response:

```
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:      <emailFwd:creData
S:       xmlns:emailFwd="http://www.nic.name/epp/emailFwd-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/emailFwd-1.0
S:       emailFwd-1.0.xsd">
S:        <emailFwd:name>john@doe.name</emailFwd:name>
S:        <emailFwd:crDate>1999-04-03T22:00:00.0Z</emailFwd:crDate>
S:        <emailFwd:exDate>2001-04-03T22:00:00.0Z</emailFwd:exDate>
S:      </emailFwd:creData>
S:    </resData>
S:    <extension>
S:      <persReg:creData xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
S:       persReg-1.0.xsd">
S:        <persReg:bundledRate>1</persReg:bundledRate>
S:      </persReg:creData>
S:    </extension>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

When an <create> command has failed, the EPP <creErrData> element MUST contain child elements as described in [EPP-D] and [EPP-E]. In addition, if the command response code is 2305 "Object association prohibits operation ", the EPP <extension> element MUST have a child <creErrData> element that contains the following child elements:

- An <persReg:msg> element containing a human-readable description of the error. The error code of the error MUST be identified with a "code" attribute. The language of the error is identified via an OPTIONAL "lang" attribute. If not specified, the default attribute value MUST be "en" (English).

    Error codes include:

Error Code	Error Text	Description
1	"Corresponding service exists"	Corresponding Service exists that prohibits the operation.
2	"Conflicting defensive registration exists"	Defensive Registrations exist that conflict with the Personal Registration. Consent must be obtained.

Example <create> error response:

```
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="2305">
S:      <msg>Object association prohibits operation</msg>
S:    </result>
S:    <extension>
S:      <persReg:creErrData xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
S:       persReg-1.0.xsd">
S:          <persReg:msg code="2">
S:              Conflicting defensive registration exists
S:          </persReg:msg>
S:      </persReg:creErrData>
S:    </extension>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

3.2.2 EPP <delete> Command

This extension does not add any elements to the EPP <delete> command or <delete> response described in [EPP-D] and [EPP-E].

3.2.3 EPP <renew> Command

This extension does not add any elements to the EPP <renew> command described in [EPP-D] and [EPP-E]. Additional elements are defined for the <renew> response.

When an <renew> command has been processed successfully, the EPP <renData> element MUST contain child elements as described in [EPP-D] and [EPP-E]. In addition, the EPP <extension> element MUST contain a child <persReg:renData> element that contain the following child elements:

  - An <persReg:bundledRate> element that contains a boolean value indicated if the bundled rate was charged.

Example <renew> response:

```
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:      <emailFwd:renData
S:       xmlns:emailFwd="http://www.nic.name/epp/emailFwd-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/emailFwd-1.0
S:       emailFwd-1.0.xsd">
S:        <emailFwd:name>john@doe.name</emailFwd:name>
S:        <emailFwd:exDate>2005-04-03T22:00:00.0Z</emailFwd:exDate>
S:      </emailFwd:renData>
S:    </resData>
S:    <extension>
S:      <persReg:renData xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
S:       persReg-1.0.xsd">
S:        <persReg:bundledRate>1</persReg:bundledRate>
S:      </persReg:renData>
S:    </extension>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54322-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

3.2.4 EPP <transfer> Command

This extension does not add any elements to the EPP <transfer> command described in [EPP-D] and [EPP-E]. Additional elements are defined for the <transfer> response.

When an <transfer> request command has been processed successfully, the EPP <trnData> element MUST contain child elements as described in [EPP-D] and [EPP-E]. In addition, the EPP <extension> element MUST contain a child <persReg:trnData> element that contain the following child elements:

- An <persReg:bundledRate> element that contains a boolean value indicated if the bundled rate was charged.

Example <transfer> response:

```
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:      <emailFwd:trnData
S:       xmlns:emailFwd="http://www.nic.name/epp/emailFwd-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/emailFwd-1.0
S:       emailFwd-1.0.xsd">
S:        <emailFwd:name>john@doe.name</emailFwd:name>
S:        <emailFwd:trStatus>pending</emailFwd:trStatus>
S:        <emailFwd:reID>ClientX</emailFwd:reID>
S:        <emailFwd:reDate>2000-06-08T22:00:00.0Z</emailFwd:reDate>
S:        <emailFwd:acID>ClientY</emailFwd:acID>
S:        <emailFwd:acDate>2000-06-13T22:00:00.0Z</emailFwd:acDate>
S:        <emailFwd:exDate>2002-09-08T22:00:00.0Z</emailFwd:exDate>
S:      </emailFwd:trnData>
S:    </resData>
S:    <extension>
S:      <persReg:trnData xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/persReg-1.0
S:       persReg-1.0.xsd">
S:        <persReg:bundledRate>1</persReg:bundledRate>
S:      </persReg:trnData>
S:    </extension>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54322-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

3.2.5 EPP <update> Command

This extension does not add any elements to the EPP <update> command or <update> response described in [EPP-D] and [EPP-E].

4 Formal Syntax

An EPP object mapping is specified in XML Schema notation. The formal syntax
presented here is a complete schema representation of the object mapping
suitable for automated validation of EPP XML instances. The BEIGN and END tags
are not part of the schema; they are used to note the beginning and ending of
the schema for URI registration purposes.

```xml
<?xml version="1.0" encoding="UTF-8"?>

<schema targetNamespace="http://www.nic.name/epp/persReg-1.0"
        xmlns:persReg="http://www.nic.name/epp/persReg-1.0"
        xmlns="http://www.w3.org/2001/XMLSchema"
        elementFormDefault="qualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      .name email forwarding extension schema for
      personal registration provisioning.
    </documentation>
  </annotation>

<!--
Child elements found in EPP commands.
-->
  <element name="create" type="persReg:createType"/>

<!--
Child elements of the <create> command.
-->
  <complexType name="createType">
    <sequence>
      <element name="consentID" type="persReg:consentIDType"/>
    </sequence>
  </complexType>

  <simpleType name="consentIDType">
    <restriction base="token">
      <minLength value="1"/>
      <maxLength value="64"/>
    </restriction>
  </simpleType>

<!--
Child response elements.
-->
  <element name="creData" type="persReg:genDataType"/>
  <element name="infData" type="persReg:infDataType"/>
  <element name="renData" type="persReg:genDataType"/>
  <element name="trnData" type="persReg:genDataType"/>

<!--
General response elements.
-->
  <complexType name="genDataType">
    <sequence>
      <element name="bundledRate" type="boolean"/>
    </sequence>
```

```
      </complexType>

<!--
<info> response elements.
-->
  <complexType name="infDataType">
    <sequence>
      <element name="consentID" type="persReg:consentIDType"/>
    </sequence>
  </complexType>

<!--
End of schema.
-->
</schema>
```

5 References

[EPP] S. Hollenbeck: "Extensible Provisioning Protocol".

[EPP-D] S. Hollenbeck: "Extensible Provisioning Protocol Domain Name Mapping".

[EPP-E] "Extensible Provisioning Protocol Email Forwarding Mapping".

[EPP-DF] "Extensible Provisioning Protocol Defensive Registration Mapping".

[IETF-XML] M. Mealling: "The IETF XML Registry".

[ISO8601] ISO 8601:1988 (E): "Data elements and interchange formats -Information interchange - Representation of dates and times - The International Organization for Standardization".

[RFC2119] S. Bradner: "Key Words for Use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[XML] Editors T. Bray et al.: "Extensible Markup Language (XML) 1.0 (Second Edition)", W3C Recommendation 6 October 2000.

[XMLS-1] Editors H. Thompson et al.: "XML Schema Part 1: Structures", W3C Recommendation 2 May 2001.

[XMLS-2] Editors P. Biron, A. Malhotra: "XML Schema Part 2: Datatypes", W3C Recommendation 2 May 2001.