

Registration Protocols Extensions  
Internet-Draft  
Intended status: Standards Track  
Expires: April 21, 2017

R. Carney  
J. Snitker  
GoDaddy Inc.  
October 18, 2016

Validate Extension for the Extensible Provisioning Protocol (EPP)  
draft-carney-regext-validate-01

## Abstract

This document describes an Extensible Provisioning Protocol (EPP) extension mapping for the validation of contact and eligibility data.

## Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on April 21, 2017.

## Copyright Notice

Copyright (c) 2016 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Internet-Draft

Validate

October 2016

## Table of Contents

<a href="#">1.</a>	Introduction . . . . .	<a href="#">2</a>
<a href="#">1.1.</a>	Conventions Used in This Document . . . . .	<a href="#">2</a>
<a href="#">2.</a>	Object Attributes . . . . .	<a href="#">3</a>
<a href="#">3.</a>	EPP Command Mapping . . . . .	<a href="#">3</a>
<a href="#">3.1.</a>	EPP Query Commands . . . . .	<a href="#">3</a>
<a href="#">3.1.1.</a>	EPP <check> Command . . . . .	<a href="#">3</a>
<a href="#">3.1.2.</a>	EPP <info> Command . . . . .	<a href="#">7</a>
<a href="#">3.1.3.</a>	EPP <poll> Command . . . . .	<a href="#">7</a>
<a href="#">3.1.4.</a>	EPP <transfer> Command . . . . .	<a href="#">8</a>
<a href="#">3.2.</a>	EPP Query Commands . . . . .	<a href="#">8</a>
<a href="#">3.2.1.</a>	EPP <create> Command . . . . .	<a href="#">8</a>
<a href="#">3.2.2.</a>	EPP <delete> Command . . . . .	<a href="#">8</a>
<a href="#">3.2.3.</a>	EPP <renew> Command . . . . .	<a href="#">8</a>
<a href="#">3.2.4.</a>	EPP <transfer> Command . . . . .	<a href="#">8</a>
<a href="#">3.2.5.</a>	EPP <update> Command . . . . .	<a href="#">8</a>
<a href="#">4.</a>	Formal Syntax . . . . .	<a href="#">8</a>
<a href="#">4.1.</a>	Validate Extension Schema . . . . .	<a href="#">9</a>
<a href="#">5.</a>	IANA Considerations . . . . .	<a href="#">11</a>
<a href="#">5.1.</a>	XML Namespace . . . . .	<a href="#">11</a>
<a href="#">5.2.</a>	EPP Extension Registry . . . . .	<a href="#">12</a>
<a href="#">6.</a>	Security Considerations . . . . .	<a href="#">12</a>
<a href="#">7.</a>	Acknowledgements . . . . .	<a href="#">12</a>
<a href="#">8.</a>	Change History . . . . .	<a href="#">12</a>
<a href="#">8.1.</a>	Change from 00 to 01 . . . . .	<a href="#">12</a>
<a href="#">9.</a>	Normative References . . . . .	<a href="#">13</a>
	Authors' Addresses . . . . .	<a href="#">13</a>

[1.](#) Introduction

This document describes an extension mapping for version 1.0 of the Extensible Provisioning Protocol (EPP) [[RFC5730](#)]. This EPP mapping specifies a flexible schema by which EPP clients and servers can reliably validate contact and eligibility data.

With the increased number of restrictions on contacts and required data points (license, ids, etc.) to register a domain name, a way to validate the data points prior to issuing a transform command is becoming more important.

[1.1.](#) Conventions Used in This Document

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](#) [[RFC2119](#)].

Internet-Draft

Validate

October 2016

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

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 are provided only to illustrate element relationships and are not a REQUIRED feature of this protocol.

## [2.](#) Object Attributes

This extension adds additional elements to EPP object mappings like the EPP domain name mapping [[RFC5733](#)]. Only those new elements are described here.

Key Value provides a flexible mechanism to share data between the client and the server. The <validate:kv> element defines the data, with two required simple attributes, key and value, and an optional contactType attribute for specificity in the response, more details below.

- o An example <validate:kv key="VATID" value="0123456789"/>.
- o An example <validate:kv contactType="Admin" key="contact:cc" value="Invalid country code for admin contact, must be MX."/>.

## [3.](#) EPP Command Mapping

A detailed description of the EPP syntax and semantics can be found in [[RFC5730](#)]. The command mappings described here are specifically for the Validate Extension

### [3.1.](#) EPP Query Commands

EPP provides four 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, <poll> to discover and retrieve service messages queued by the server, and <transfer> to retrieve object transfer status information.

### 3.1.1. EPP <check> Command

This extension defines additional elements for the EPP <check> command.

The command frame MAY contain an <extension> element which MAY contain one child <validate:check> element with the following child element(s):

- o one or more <validate:contact> element(s) for each contact that is to be validated that contains the contact type of the contact to be validated.

The <validate:contact> element MUST contain the following child elements:

- o one <validate:cd> element.
- o zero or more <validate:kv> elements.

The <validate:cd> element MUST contain the following child elements:

- o one <validate:id> element.
- o an OPTIONAL <validate:postalInfo> element.
- o an OPTIONAL <validate:voice> element.
- o an OPTIONAL <validate:fax> element.
- o an OPTIONAL <validate:email> element.
- o an OPTIONAL <validate:authInfo> element.
- o an OPTIONAL <validate:disclose> element.

The following is an example of the <check> command using the <validate> extension.

```
C:<?xml version="1.0" encoding="UTF-8" standalone="no"?>
C:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0"
C:  xmlns:validate="urn:ietf:params:xml:ns:validate-0.1"
C:  xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
C:  <command>
C:    <check>
```

```

C:      <validate:check>
C:      <validate:contact contactType="registrant" tld="COM">
C:      <validate:cd>
C:      <validate:id>sh8013</validate:id>
C:      <validate:postalInfo type="int">
C:      <contact:name>John Doe</contact:name>
C:      <contact:org>Example Inc.</contact:org>
C:      <contact:addr>
C:      <contact:street>123 Example Dr.</contact:street>
C:      <contact:street>Suite 100</contact:street>
C:      <contact:city>Dulles</contact:city>
C:      <contact:sp>VA</contact:sp>
C:      <contact:pc>20166-6503</contact:pc>
C:      <contact:cc>US</contact:cc>
C:      </contact:addr>
C:      </validate:postalInfo>
C:      <validate:voice>+1.7035555555</validate:voice>
C:      <validate:fax>+1.7035555556</validate:fax>
C:      <validate:email>jdoe@example.com</validate:email>

```

```

C:      <validate:authInfo>
C:      <contact:pw>2fooBAR</contact:pw>
C:      </validate:authInfo>
C:      <validate:disclose flag="0">
C:      <contact:voice/>
C:      <contact:email/>
C:      </validate:disclose>
C:      </validate:cd>
C:      <validate:kv key="VAT" value="1234567890"/>
C:      </validate:contact>
C:      <validate:contact contactType="tech" tld="COM">
C:      <validate:cd>
C:      <validate:id>sh8013</validate:id>
C:      </validate:cd>
C:      </validate:contact>
C:      <validate:contact contactType="admin" tld="COM">
C:      <validate:cd>
C:      <validate:id>sh8014</validate:id>
C:      <validate:postalInfo type="int">
C:      <contact:name>John Doe</contact:name>
C:      <contact:org>Example Inc.</contact:org>
C:      <contact:addr>

```

```

C:      <contact:street>123 Example Dr.</contact:street>
C:      <contact:street>Suite 100</contact:street>
C:      <contact:city>Dulles</contact:city>
C:      <contact:sp>VA</contact:sp>
C:      <contact:pc>20166-6503</contact:pc>
C:      <contact:cc>US</contact:cc>
C:      </contact:addr>
C:      </validate:postalInfo>
C:      <validate:voice>+1.7035555555</validate:voice>
C:      <validate:fax>+1.7035555556</validate:fax>
C:      <validate:email>jdoe@example.com</validate:email>
C:      <validate:authInfo>
C:      <contact:pw>2fooBAR</contact:pw>
C:      </validate:authInfo>
C:      <validate:disclose flag="0">
C:      <contact:voice/>
C:      <contact:email/>
C:      </validate:disclose>
C:      </validate:cd>
C:      </validate:contact>
C:      <validate:contact contactType="billing" tld="COM">
C:      <validate:cd>
C:      <validate:id>sh8014</validate:id>
C:      </validate:cd>
C:      </validate:contact>
C:      </validate:check>

```

```

C:      </check>
C:      <clTRID>ABC-12345</clTRID>
C:      </command>
C: </epp>

```

When the server receives a <check> command that includes the extension elements described above, its response MUST contain an <extension> element, which MUST contain a child <validate:chkData> element. The <validate:chkData> element MUST contain a <validate:cd> element for each <validate:check> element contained in the <check> command. The <validate:cd> element MUST contain the following child elements:

- o one <validate:id> element.
- o one <validate:response> element.

- o zero or more <validate:kv> elements.

The following is an example of the <check> response using the <validate> extension.

```
S:<?xml version="1.0" encoding="UTF-8" standalone="no"?>
S:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
S:  <response>
S:    <result code="1000">
S:      <msg>Command completed successfully</msg>
```

```

S:    </result>
S:    <resData>
S:      <validate:chkData
S:        xmlns:validate="urn:ietf:params:xml:ns:validate-0.1">
S:          <validate:cd>
S:            <validate:id>sh8013</validate:id>
S:            <validate:response>1000</validate:response>
S:          </validate:cd>
S:          <validate:cd>
S:            <validate:id>sh8014</validate:id>
S:            <validate:response>2306</validate:response>
S:            <validate:kv key="contact:city" value="City not valid
S:              for state."/>
S:            <validate:kv contactType="Admin" key="contact:cc"
S:              value="Invalid country code for admin, must be mx."/>
S:            <validate:kv contactType="Billing" key="VAT" value="VAT
S:              required for Billing contact."/>
S:          </validate:cd>
S:        </validate:chkData>
S:      </resData>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-ZYX</svTRID>
S:    </trID>
S:  </response>
S:</epp>

```

### [3.1.2.](#) EPP <info> Command

This extension does not add any elements to the EPP <info> command or <info> response.

### [3.1.3.](#) EPP <poll> Command

This extension does not add any elements to the EPP <poll> command or <poll> response.

### [3.1.4.](#) EPP <transfer> Command



This extension does not add any elements to the EPP <transfer> command or <transfer> response.

### [3.2.](#) EPP Query Commands

EPP provides five commands to transform objects: <create> to create an instance of an object with a server, <delete> to remove an instance of an object from a server, <renew> to extend the validity period of an object, <transfer> to manage changes in client sponsorship of an object, and <update> to change information.

#### [3.2.1.](#) EPP <create> Command

This extension does not add any elements to the EPP <create> command or <create> response.

#### [3.2.2.](#) EPP <delete> Command

This extension does not add any elements to the EPP <delete> command or <delete> response.

#### [3.2.3.](#) EPP <renew> Command

This extension does not add any elements to the EPP <renew> command or <renew> response.

#### [3.2.4.](#) EPP <transfer> Command

This extension does not add any elements to the EPP <transfer> command or <transfer> response.

#### [3.2.5.](#) EPP <update> Command

This extension does not add any elements to the EPP <update> command or <update> response.

## [4.](#) Formal Syntax

One schema is presented here that is the EPP Validate Extension schema.

The formal syntax presented here is a complete schema representation of the object mapping suitable for automated validation of EPP XML instances. The BEGIN 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.

#### [4.1.](#) Validate Extension Schema

```
BEGIN
<?xml version="1.0" encoding="UTF-8"?>
<schema
  targetNamespace="urn:ietf:params:xml:ns:validate-0.1"
  xmlns:validate="urn:ietf:params:xml:ns:validate-0.1"
  xmlns:epp="urn:ietf:params:xml:ns:epp-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      Validate Object Extension
    </documentation>
  </annotation>

  <!-- Import common element types. -->
  <import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
    schemaLocation="eppcom-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:epp-1.0"
    schemaLocation="epp-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:contact-1.0"
    schemaLocation="contact-1.0.xsd"/>

  <!--
  Child elements of the <check> command.
  -->
  <element name="check" type="validate:checkType"/>

  <complexType name="checkType">
    <sequence>
      <element name="contact"
        type="validate:validateContactType"
        maxOccurs="unbounded" />
    </sequence>
  </complexType>

  <complexType name="validateContactType">
    <sequence>
      <element name="cd"
        type="validate:checkDataType"/>
      <element name="kv"
```

```
type="validate:kvType" minOccurs="0"
maxOccurs="unbounded" />
```

```
</sequence>
<attribute name="contactType" type="eppcom:labelType"
  use="required"/>
<attribute name="tld"
  type="eppcom:labelType" use="required"/>
</complexType>

<complexType name="checkDataType">
  <sequence>
    <element name="id"
      type="eppcom:clIDType" />
    <element name="postalInfo"
      type="contact:postalInfoType"
      minOccurs="0" maxOccurs="2" />
    <element name="voice"
      type="contact:e164Type" minOccurs="0" />
    <element name="fax"
      type="contact:e164Type" minOccurs="0" />
    <element name="email"
      type="eppcom:minTokenType" minOccurs="0"/>
    <element name="authInfo"
      type="contact:authInfoType"
      minOccurs="0"/>
    <element name="disclose"
      type="contact:discloseType"
      minOccurs="0" />
  </sequence>
</complexType>

<complexType name="kvType">
  <attribute name="contactType"
    type="eppcom:labelType" use="optional" />
  <attribute name="key"
    type="validate:keyType" use="required" />
  <attribute name="value"
    type="validate:valueType" use="required" />
</complexType>

<simpleType name="keyType">
```

```

    <restriction base="token">
      <minLength value="1" />
    </restriction>
  </simpleType>

  <simpleType name="valueType">
    <restriction base="token">
      <minLength value="0" />
    </restriction>
  </simpleType>

```

```

  </simpleType>

  <!--
  Child elements of the <check> response.
  -->
  <element name="chkData" type="validate:chkDataType" />

  <complexType name="chkDataType">
    <sequence>
      <element name="cd"
        type="validate:resCreateDataType" maxOccurs="unbounded" />
    </sequence>
  </complexType>

  <complexType name="resCreateDataType">
    <sequence>
      <element name="id"
        type="eppcom:clIDType" />
      <element name="response"
        type="epp:resultCodeType" />
      <element name="kv"
        type="validate:kvType"
        minOccurs="0" maxOccurs="unbounded" />
    </sequence>
  </complexType>

</schema>
END

```

## [5.](#) IANA Considerations

### [5.1.](#) XML Namespace

This document uses URNs to describe XML namespaces and XML schemas conforming to a registry mechanism described in [[RFC3688](#)]. The following URI assignment is requested of IANA:

URI: ietf:params:xml:ns:validate-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: See the "Formal Syntax" section of this document.

Carney & Snitker

Expires April 21, 2017

[Page 11]

---

Internet-Draft

Validate

October 2016

## [5.2.](#) EPP Extension Registry

The EPP extension described in this document should be registered by the IANA in the EPP Extension Registry described in [[RFC7451](#)]. The details of the registration are as follows:

Name of Extension: "Validate Extension for the Extensible Provisioning Protocol (EPP)"

Document status: Standards Track

Reference: (insert reference to RFC version of this document)

Registrant Name and Email Address: IESG, <iesg@ietf.org>

TLDs: Any

IPR Disclosure: None

Status: Active

Notes: None

## [6.](#) Security Considerations

The mapping extensions described in this document do not provide any security services beyond those described by EPP [[RFC5730](#)] and protocol layers used by EPP. The security considerations described in these other specifications apply to this specification as well.

## [7.](#) Acknowledgements

The authors wish to thank the following persons for their feedback and suggestions:

- o Kevin Allendorf of GoDaddy Inc.
- o Jody Kolker of GoDaddy Inc.
- o James Gould of Verisign Inc

## [8.](#) Change History

### [8.1.](#) Change from 00 to 01

After review and broad feedback, extensive changes have been made transforming the original document from a standalone extension command to an extension using the <check> command and response framework.

## [9.](#) Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), DOI 10.17487/RFC2119, March 1997, <<http://www.rfc-editor.org/info/rfc2119>>.
- [RFC3688] Mealling, M., "The IETF XML Registry", [BCP 81](#), [RFC 3688](#), DOI 10.17487/RFC3688, January 2004, <<http://www.rfc-editor.org/info/rfc3688>>.
- [RFC5730] Hollenbeck, S., "Extensible Provisioning Protocol (EPP)", STD 69, [RFC 5730](#), DOI 10.17487/RFC5730, August 2009, <<http://www.rfc-editor.org/info/rfc5730>>.
- [RFC5733] Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Contact Mapping", STD 69, [RFC 5733](#), DOI 10.17487/RFC5733, August 2009, <<http://www.rfc-editor.org/info/rfc5733>>.

[RFC7451] Hollenbeck, S., "Extension Registry for the Extensible Provisioning Protocol", [RFC 7451](#), DOI 10.17487/RFC7451, February 2015, <<http://www.rfc-editor.org/info/rfc7451>>.

#### Authors' Addresses

Roger Carney  
GoDaddy Inc.  
14455 N. Hayden Rd. #219  
Scottsdale, AZ 85260  
US

Email: [rcarney@godaddy.com](mailto:rcarney@godaddy.com)  
URI: <http://www.godaddy.com>

Joseph Snitker  
GoDaddy Inc.  
14455 N. Hayden Rd. #219  
Scottsdale, AZ 85260  
US

Email: [jsnitker@godaddy.com](mailto:jsnitker@godaddy.com)  
URI: <http://www.godaddy.com>