



EXTENSIBLE PROVISIONING PROTOCOL MAPPING: <BALANCE>

**Version 1.0
11/7/2011**

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Change Log

Author(s)	Date	Revision	Description
James F. Gould	11/7/2011	1.0	Initial Revision

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1. Introduction

This document describes an Balance object mapping for version 1.0 of the Extensible Provisioning Protocol (EPP). This mapping is specified using the [\[XML\]](#) and [\[XMLS-1\]](#) 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.

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 [RFC2119].

In examples, “C:” represents lines sent by a protocol client and “S:” represents lines returned by a protocol server. Indentation in examples is provided only to illustrate element relationships and is not a REQUIRED feature of this protocol.

2. Object Attributes

An EPP Balance object has attributes and associated values that may be viewed by the sponsoring client or the server. This section describes each attribute type in detail.

2.1 Decimal Attribute Values

All of the EPP Balance currency object attributes use the XML [decimal](#) data type to represent the currency value in the currency of the server. The precision is restricted to 2 fractional digits.

2.2 Dates and Times

Date and time attribute values MUST be represented in Universal Coordinated Time (UTC) using the Gregorian calendar. The extended date-time form using upper case "T" and "Z" characters defined in [\[XMLS-2\]](#) MUST be used to represent date-time values, as XML Schema does not support truncated date-time forms or lower case "t" and "z" characters.

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 with the Balance object mapping.

3.3 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.

3.3.1 EPP <check> Command

Available check semantics do not apply to balance objects, so there is no mapping defined for the EPP <check> command.

3.3.2 EPP <info> Command

EPP provides the <info> command is used to retrieve balance and other financial with an account. In addition to the standard EPP command elements, the <info> command MUST contain a <balance:info> element that identifies the balance namespace. The <balance:info> element does not contain any child elements

Example <info> 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:    <info>
C:      <balance:info
C:        xmlns:balance="http://www.verisign.com/epp/balance-1.0"/>
C:    </info>
C:    <clTRID>ABC-12345</clTRID>
C:  </command>
C:</epp>
```

When an <info> command has been processed successfully, the EPP <resData> element MUST contain a child <balance:infData> element that identifies the balance namespace. The <balance:infData> element contains the following child elements:

- A <balance:creditLimit> element that contains the credit limit in the currency of the server.
- A <balance:balance> element that contains the balance in the currency of the server.
- A <balance:availableCredit> element that contains the available credit in the currency of the server.
- A <balance:creditThreshold> element that contains the low available credit threshold to receive a low balance notification message based on the [\[LOW-BALANCE\]](#). The <balance:creditThreshold> element contains one of the following child elements:
 - o <balance:fixed> element that contains a fixed amount low credit threshold in the currency of the server.
 - o <balance:percent> element that contains an integer percent value low credit threshold that represents a percentage of the <balance:creditLimit>

value. The low credit threshold is calculated by multiplying the <balance:creditLimit> value with the <balance:percent> percentage value.

Example <info> with fixed low credit threshold 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:      <balance:infData
S:        xmlns:balance="http://www.verisign.com/epp/balance-1.0">
S:        <balance:creditLimit>1000.00</balance:creditLimit>
S:        <balance:balance>200.00</balance:balance>
S:        <balance:availableCredit>800.00</balance:availableCredit>
S:        <balance:creditThreshold>
S:          <balance:fixed>500.00</balance:fixed>
S:        </balance:creditThreshold>
S:      </balance:infData>
S:    </resData>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54322-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

Example <info> with percent low credit threshold 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:      <balance:infData
S:        xmlns:balance="http://www.verisign.com/epp/balance-1.0">
S:        <balance:creditLimit>1000.00</balance:creditLimit>
S:        <balance:balance>200.00</balance:balance>
S:        <balance:availableCredit>800.00</balance:availableCredit>
S:        <balance:creditThreshold>
S:          <balance:percent>50</balance:percent>
S:        </balance:creditThreshold>
S:      </balance:infData>
S:    </resData>
S:    <trID>
```

```
S:      <clTRID>ABC-12345</clTRID>  
S:      <svTRID>54322-XYZ</svTRID>  
S:      </trID>  
S:      </response>  
S:</epp>
```

3.3.3 EPP <transfer> Command

Transfer semantics do not apply to balance objects, so there is no mapping defined for the EPP <transfer> command.

3.4 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.

3.4.1 EPP <create> Command

Create semantics do not apply to balance objects, so there is no mapping defined for the EPP <create> command.

3.4.2 EPP <delete> Command

Delete semantics do not apply to balance objects, so there is no mapping defined for the EPP <delete> command.

3.4.3 EPP <renew> Command

Renew semantics do not apply to balance objects, so there is no mapping defined for the EPP <renew> command.

3.4.4 EPP <transfer> Command

Transfer semantics do not apply to balance objects, so there is no mapping defined for the EPP <transfer> command.

3.4.5 EPP <update> Command

Update semantics do not apply to balance objects, so there is no mapping defined for the EPP <update> command.

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 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.

BEGIN

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

<schema targetNamespace="http://www.verisign.com/epp/balance-1.0"
  xmlns:balance="http://www.verisign.com/epp/balance-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      Verisign mapping for getting account balance and other financial
information.
    </documentation>
  </annotation>

  <!--
Child elements found in EPP commands.
-->
  <!-- Empty balance:info command element -->
    <element name="info"/>

  <!--
Child response elements.
-->
    <element name="infData" type="balance:infDataType"/>

    <!--Child elements of the balance:infData element -->
    <complexType name="infDataType">
      <sequence>
        <element name="creditLimit" type="balance:currencyValueType"/>
        <element name="balance" type="balance:currencyValueType"/>

        <element name="availableCredit" type="balance:currencyValueType"/>

        <element name="creditThreshold" type="balance:thresholdType"/>

      </sequence>
    </complexType>

    <complexType name="thresholdType">
      <choice>
        <element name="fixed" type="balance:currencyValueType"/>
        <element name="percent" type="integer"/>
      </choice>
    </complexType>
```

```
<simpleType name="currencyValueType">
  <restriction base="decimal">
    <fractionDigits value="2"/>
  </restriction>
</simpleType>

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

5. References

[[EPP](#)] IETF RFC 5730: S. Hollenbeck: "Extensible Provisioning Protocol (EPP)", August 2009.

[[XML](#)] Editors T. Bray et al.: "Extensible Markup Language (XML) 1.0 (Second Edition)", W3C Recommendation 04 February 2004.

[[XMLS-1](#)] Editors H. Thompson et al.: "XML Schema Part 1: Structures", W3C Recommendation 28 October 2004.

[[XMLS-2](#)] Editors P. Biron, A. Malhotra: "XML Schema Part 2: Datatypes", W3C Recommendation 28 October 2004.

[[LOW-BALANCE](#)] "Extensible Provisioning Protocol Mapping: Low Balance", Version 1.1