EXTENSIBLE PROVISIONING PROTOCOL EXTENSION MAPPING: <PREMIUM DOMAIN>

Version 2.1

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Change Log

Author(s)	Date	Revision	Description
Mahendra Jain	12/18/2009	1.0	Initial Revision
Mahendra Jain	03/24/2010	2.0	Added Premium Domain Check command support
Mahendra Jain	04/09/2010	2.1	Added renewal price support to Premium Domain Check response

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1 Introduction

This document describes a Premium Domain extension for version 1.0 of the Extensible Provisioning Protocol (EPP). This mapping, an extension of the domain name mapping described in [EPP-D], is specified using the Extensible Markup Language (XML) 1.0 as described in [W3C.REC-xml-20040204] and XML Schema notation as described in [W3C.REC-xmlschema-1-20041028] and [W3C.REC-xmlschema-2-20041028].

[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]. Only new element descriptions are described here.

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 Premium Domain Extension.

3.1 EPP Query Commands

3.1.1 EPP <check> Command

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

The EPP <check> command is used to determine if an object can be provisioned within a repository. In addition to the EPP command elements described in [EPP-D], the command MUST contain an <extension> element. The <extension> element MUST contain a child <premiumdomain:check> element that contains the following child element:

- A <premiumdomain:flag> element that MUST contain a boolean value of "1" or "true" to indicate that additional premium information is desired in the response or a value of "0" or "false" to indicate that no additional premium information is desired in the response.

Example <check> command (Single domain name):

```
<?xml version="1.0" encoding="UTF-8"?>
<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">
  <command>
    <check>
      <domain:check
                xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
                xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
        <domain:name>example.tv</domain:name>
      </domain:check>
    </check>
    <extension>
      <premiumdomain:check
                xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
                xsi:schemaLocation="http://www.verisign.com/epp/premiumdomain-1.0
premiumdomain-1.0.xsd">
        <premiumdomain:flag>1</premiumdomain:flag>
      </premiumdomain:check>
    </extension>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

- When a <check> command has been processed successfully, the EPP <chkData> element MUST contain child elements as described in [EPP-D]. In addition to the EPP response element described in [EPP-D], the response MUST contain an <extension> element with a <premiumdomain:chkData> child element if the <premiumdomain:check> command extension was included with a <premiumdomain:flag> value of "1" or "true". The <premiumdomain:chkData> element contains one or more <premiumdomain:cd> elements that contain the following child elements:

- A <premiumdomain:name> element that contains the fully qualified name of the queried domain object. This element MUST contain a "premium" attribute whose value indicates if an object is premium at the moment the <check> command was completed. A value of "1" or "true" means that the object is premium object. A value of "0" or "false" means that the object is not a premium object.

- An OPTIONAL <premiumdomain:price> element that contains the premium price associated with this object. This element MUST contain a "unit" attribute whose value indicates the unit of price. The default price unit is USD (US Dollar). The <premiumdomain:price> element is included only if the client is authorized based on server policy, the object is a premium object, and the object is available for provisioning at the moment the <check> command was completed.

- An OPTIONAL <premiumdomain:renewalPrice> element that contains the premium renewal price associated with this object. This element MUST contain a "unit" attribute whose value indicates the unit of price. The default price unit is USD (US Dollar). The <premiumdomain:renewalPrice> element is included only if the client is authorized based on server policy, the object is a premium object, and the object is available for provisioning at the moment the <check> command was completed.

Example <check> command response (Single domain name):

```xml
<?xml version="1.0" encoding="UTF-8"?>
<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">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:chkData
                xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
                xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
        <domain:cd>
          <domain:name avail="1">example.tv</domain:name>
        </domain:cd>
      </domain:chkData>
    </resData>
    <extension>
      <premiumdomain:chkData
                xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
                xsi:schemaLocation="http://www.verisign.com/epp/premiumdomain-1.0
premiumdomain-1.0.xsd">
        <premiumdomain:cd>
          <premiumdomain:name premium="1">example.tv</premiumdomain:name>
          <premiumdomain:price unit="USD">125.00</premiumdomain:price>
          <premiumdomain:renewalPrice unit="USD">75.00</premiumdomain:renewalPrice>
        </premiumdomain:cd>
      </premiumdomain:chkData>
    </extension>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>54321-XYZ</svTRID>
    </trID>
  </response>
</epp>
```
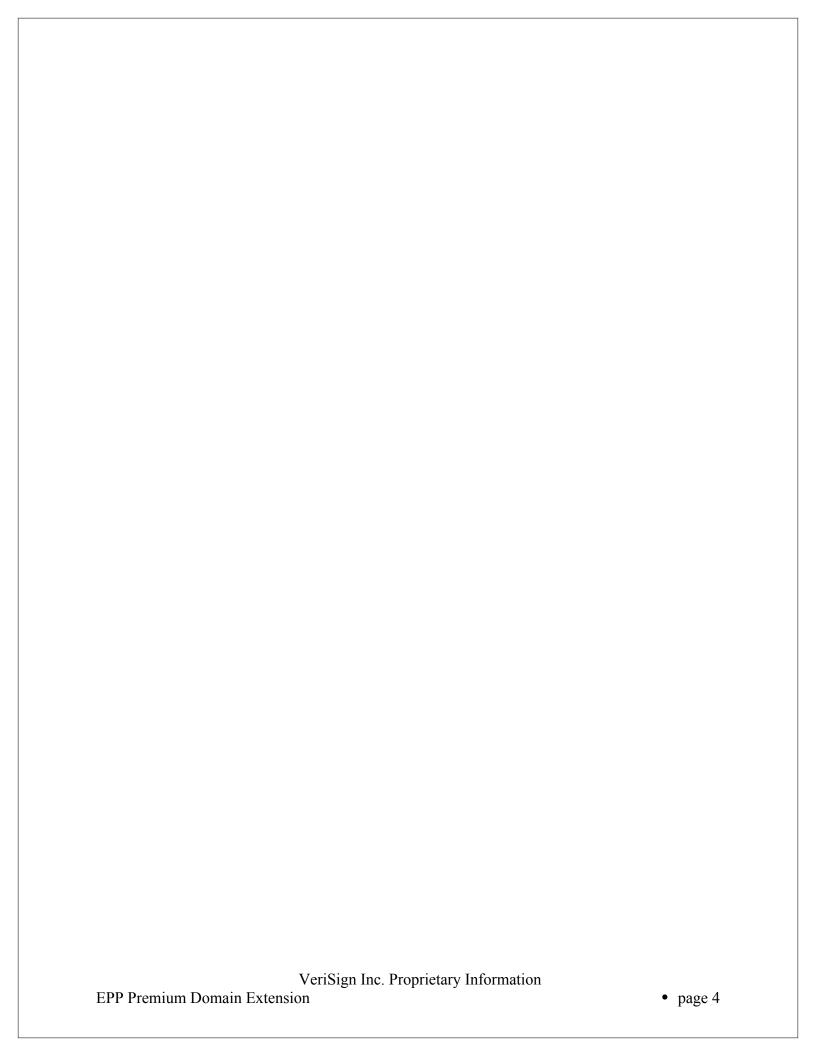
Example <check> command (Multiple domain names):

```
<?xml version="1.0" encoding="UTF-8"?>
<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">
  <command>
    <check>
      <domain:check
                xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
                xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
        <domain:name>example-1.tv</domain:name>
        <domain:name>example-2.tv</domain:name>
        <domain:name>example-3.tv</domain:name>
      </domain:check>
    </check>
    <extension>
      <premiumdomain:check
                xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
                xsi:schemaLocation="http://www.verisign.com/epp/premiumdomain-1.0
premiumdomain-1.0.xsd">
                <premiumdomain:flag>1</premiumdomain:flag>
      </premiumdomain:check>
    </extension>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

- When an <check> command has been processed successfully, the response contains the following response elements.

Example <check> command response (Multiple domain names):

```
<?xml version="1.0" encoding="UTF-8"?>
<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">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:chkData
                xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
                xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
        <domain:cd>
          <domain:name avail="1">example-1.tv</domain:name>
        </domain:cd>
        <domain:cd>
          <domain:name avail="0">example-2.tv</domain:name>
        </domain:cd>
        <domain:cd>
          <domain:name avail="1">example-3.tv</domain:name>
        </domain:cd>
      </domain:chkData>
    </resData>
    <extension>
      <premiumdomain:chkData
```

```
                    xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
                    xsi:schemaLocation="http://www.verisign.com/epp/premiumdomain-1.0
premiumdomain-1.0.xsd">
            <premiumdomain:cd>
                    <premiumdomain:name premium="1">example-1.tv</premiumdomain:name>
                    <premiumdomain:price unit="USD">125.00</premiumdomain:price>
                    <premiumdomain:renewalPrice unit="USD">75.00</premiumdomain:renewalPrice>
            </premiumdomain:cd>
            <premiumdomain:cd>
                    <premiumdomain:name premium="1">example-2.tv</premiumdomain:name>
            </premiumdomain:cd>
            <premiumdomain:cd>
                    <premiumdomain:name premium="1">example-3.tv</premiumdomain:name>
                    <premiumdomain:price unit="USD">125.00</premiumdomain:price>
                    <premiumdomain:renewalPrice unit="USD">75.00</premiumdomain:renewalPrice>
            </premiumdomain:cd>
        </premiumdomain:chkData>
    </extension>
    <trID>
        <clTRID>ABC-12345</clTRID>
        <svTRID>54321-XYZ</svTRID>
    </trID>
  </response>
</epp>
```

3.1.2 EPP <info> Command

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

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].

3.2 EPP Transform Commands

3.2.1 EPP <create> Command

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

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].

3.2.3 EPP <renew> Command

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

3.2.4 EPP <transfer> Command

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

3.2.5 EPP <update> Command

This extension defines additional elements for the EPP <update> command described in [EPP-D].

The EPP <update> command is used to update information associated with a domain object. In addition to the EPP command elements described in [EPP-D], the command MUST contain an <extension> element. The <extension> element MUST contain a child <premiumdomain:reassign> element that contains the following child element:

- A < premiumdomain:shortName> element that MUST contain a shortname of a registrar to whom the current domain name needs to be reassigned.

Example <update> command:

```
<?xml version="1.0" encoding="UTF-8"?>
<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">
   <command>
     <update>
        <domain:update xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
          xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
          <domain:name>premium.tv</domain:name>
        </domain:update>
     </update>
     <extension>
        <premiumdomain:reassign
          xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
          xsi:schemaLocation="http://www.verisign.com/epp/premiumdomain-1.0 premiumdomain-
1.0.xsd">
          <premiumdomain:shortName>testregistrar</premiumdomain:shortName>
        </premiumdomain:reassign>
     </extension>
     <clTRID>ABC-12345-XYZ</clTRID>
   </command>
</epp>
```

-   When an <update> command has been processed successfully, the response contains the standard EPP update response elements.

Example <update> command response:

```
<?xml version="1.0" encoding="UTF-8"?>
<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">
   <response>
     <result code="1000">
        <msg>Command completed successfully</msg>
     </result>
     <trID>
        <clTRID>ABC-12345-XYZ</clTRID>
        <svTRID>54321-XYZ</svTRID>
```

```
        </trID>
    </response>
</epp>
```

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.

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

<schema targetNamespace="http://www.verisign.com/epp/premiumdomain-1.0"
         xmlns:premiumdomain="http://www.verisign.com/epp/premiumdomain-1.0"
         xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
         xmlns="http://www.w3.org/2001/XMLSchema"
         elementFormDefault="qualified">

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

<annotation>
         <documentation>
                     Extensible Provisioning Protocol v1.0
                     Extension schema for Premium Domain
         </documentation>
</annotation>

<!-- Premium Domain check command extension root element -->
<element name="check" type="premiumdomain:chkType"/>

<!-- Premium Domain check response extension root element -->
<element name="chkData" type="premiumdomain:chkDataType"/>

<!-- Premium Domain reassign command extension root element -->
<element name="reassign" type="premiumdomain:reassignType"/>

<!-- Child elements of the <premiumdomain:check> command extension -->
<complexType name="chkType">
         <sequence>
                     <element name="flag" type="boolean" minOccurs="1" maxOccurs="1" />
         </sequence>
</complexType>

<!-- Child elements of the <premiumdomain:chkData> response extension -->
<complexType name="chkDataType">
         <sequence>
                     <element name="cd" type="premiumdomain:checkType" maxOccurs="unbounded"/>
         </sequence>
</complexType>

<!-- Child elements of the <premiumdomain:reassign> command extension -->
<complexType name="reassignType">
         <sequence>
                     <element name="shortName" type="eppcom:labelType" minOccurs="1"
maxOccurs="1" />
         </sequence>
</complexType>

<complexType name="checkType">
         <sequence>
                     <element name="name" type="premiumdomain:checkNameType"/>
                     <element name="price" type="premiumdomain:priceType" minOccurs="0"
maxOccurs="1" />
                     <element name="renewalPrice" type="premiumdomain:priceType" minOccurs="0"
maxOccurs="1" />
         </sequence>
</complexType>

<complexType name="checkNameType">
         <simpleContent>
```

```xml
                        <extension base="eppcom:labelType">
                                <attribute name="premium" type="boolean" use="required"/>
                        </extension>
                </simpleContent>
        </complexType>

        <complexType name="priceType">
                <simpleContent>
                        <extension base="premiumdomain:priceFormatType">
                                <attribute name="unit" type="premiumdomain:priceUnitType"
use="required"/>
                        </extension>
                </simpleContent>
        </complexType>

        <!-- Price type restricted to include two decimal places -->
        <simpleType name="priceFormatType">
                <restriction base="decimal">
                        <fractionDigits value="2"/>
                        <minInclusive value="0.00"/>
                </restriction>
        </simpleType>

        <!-- Price unit type -->
        <simpleType name="priceUnitType">
                <restriction base="token">
                        <enumeration value="USD"/>
                </restriction>
        </simpleType>

</schema>
```

5 References

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

[EPP-D] IETF RFC 5731: S. Hollenbeck: "Extensible Provisioning Protocol Domain Name Mapping", August 2009.

[W3C.REC-xml-20040204] Sperberg-McQueen, C., Maler, E., Yergeau, F., Paoli, J., and T. Bray, "Extensible Markup Language (XML) 1.0 (Third Edition)", World Wide Web Consortium FirstEdition REC-xml-20040204, February 2004, <http://www.w3.org/TR/2004/REC-xml-20040204>.

[W3C.REC-xmlschema-1-20041028] Maloney, M., Thompson, H., Mendelsohn, N., and D. Beech, "XML Schema Part 1: Structures Second Edition", World Wide Web Consortium Recommendation REC-xmlschema-1-20041028, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-1-20041028>.

[W3C.REC-xmlschema-2-20041028] Malhotra, A. and P. Biron, "XML Schema Part 2: Datatypes Second Edition", World Wide Web Consortium Recommendation REC-xmlschema-2-20041028, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-2-20041028>.