

EPP Templates and Schemas

The EPP XML schemas are formal descriptions of the EPP XML templates. They are used to express the set of rules to which the EPP templates must conform in order to be considered valid by the schema. The EPP schemas define the building blocks of the EPP templates, describing the format of the data and the different EPP commands' request and response formats. The current EPP implementations managed by Verisign use these EPP templates and schemas, as will the proposed TLD. For each proprietary XML template/schema, we provide a reference to the applicable template and include the schema.

XML templates/schema for idnLang-1.0 (IDN Language Tag)

- **Template:** The templates for idnLang-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/idn-language-tag.pdf>.
- **Schema:** This schema describes the extension mapping for the IDN language tag. The mapping extends the EPP domain name mapping to provide additional features required for the provisioning of IDN domain name registrations.

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

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

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0 domain name
      extension schema for IDN Lang Tag.
    </documentation>
  </annotation>

  <!--
  Child elements found in EPP commands.
  -->
    <element name="tag" type="language"/>

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

XML templates/schema for rgp-poll-1.0 (RGP Poll Mapping)

- **Template:** The templates for rgp-poll-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/rgp-poll-mapping.pdf>.
- **Schema:** This schema describes the extension mapping for poll notifications. The mapping extends the EPP base mapping to provide additional features for registry grace period (RGP) poll notifications.

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

<schema targetNamespace="http://www.Verisign.com/epp/rgp-poll-1.0"
  xmlns:rgp-poll="http://www.Verisign.com/epp/rgp-poll-1.0"
```

```

xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
xmlns:rgp="urn:ietf:params:xml:ns:rgp-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"
  schemaLocation="eppcom-1.0.xsd"/>
<import namespace="urn:ietf:params:xml:ns:rgp-1.0"
  schemaLocation="rgp-1.0.xsd"/>

<annotation>
  <documentation>
    Extensible Provisioning Protocol v1.0
    Verisign poll notification specification for registry grace period
    poll notifications.
  </documentation>
</annotation>

<!--
Child elements found in EPP commands.
-->
<element name="pollData" type="rgp-poll:pollDataType"/>

<!--
Child elements of the <notifyData> element for the
redemption grace period.
-->
<complexType name="pollDataType">
  <sequence>
    <element name="name" type="eppcom:labelType"/>
    <element name="rgpStatus" type="rgp:statusType"/>
    <element name="reqDate" type="dateTime"/>
    <element name="reportDueDate" type="dateTime"/>
  </sequence>
</complexType>
<
!--
End of schema.
-->
</schema>

```

XML templates/schema for whoisInf-1.0 (Whois Info Extension)

- **Template:** The templates for whoisInf-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/whois-info-extension.pdf>.
- **Schema:** This schema describes the extension mapping for the Whois Info extension. The mapping extends the EPP domain name mapping to provide additional features for returning additional information needed for transfers.

```

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

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

```

```

<import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
  schemaLocation="eppcom-1.0.xsd"/>

<annotation>
  <documentation>
    Extensible Provisioning Protocol v1.0
    extension schema for Whois Info
  </documentation>
</annotation>

<!--
Possible Whois Info extension root elements.
-->
<element name="whoisInf" type="whoisInf:whoisInfType"/>
<element name="whoisInfData" type="whoisInf:whoisInfDataType"/>

<!--
Child elements for the <whoisInf> extension which
is used as an extension to an info command.
-->
<complexType name="whoisInfType">
  <sequence>
    <element name="flag" type="boolean"/>
  </sequence>
</complexType>

<!--
Child elements for the <whoisInfData> extension which
is used as an extension to the info response.
-->
<complexType name="whoisInfDataType">
  <sequence>
    <element name="registrar" type="string"/>
    <element name="whoisServer" type="eppcom:labelType"
      minOccurs="0"/>
    <element name="url" type="token" minOccurs="0"/>
    <element name="irisServer" type="eppcom:labelType"
      minOccurs="0"/>
  </sequence>
</complexType>

</schema>

```

XML templates/schema for sync-1.0 (EPP ConsoliDate Mapping)

- **Template:** The templates for sync-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/consolidate-mapping.txt>.
- **Schema:** This schema describes the extension mapping for the synchronization of domain name registration period expiration dates. This service is known as "ConsoliDate." The mapping extends the EPP domain name mapping to provide features that allow a protocol client to end a domain name registration period on a specific month and day.

```

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

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

```

```

<annotation>
  <documentation>
    Extensible Provisioning Protocol v1.0 domain name
    extension schema for expiration date synchronization.
  </documentation>
</annotation>

<!--
Child elements found in EPP commands.
-->
  <element name="update" type="sync:updateType"/>

<!--
Child elements of the <update> command.
-->
  <complexType name="updateType">
    <sequence>
      <element name="expMonthDay" type="gMonthDay"/>
    </sequence>
  </complexType>

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

```

XML templates/schema for namestoreExt-1.1 (NameStore Extension)

- **Template:** The templates for namestoreExt-1.1 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/namestore-extension.pdf>.
- **Schema:** This schema describes the extension mapping for the routing with an EPP intelligent gateway to a pluggable set of backend products and services. The mapping extends the EPP domain name and host mapping to provide a sub-product identifier to identify the target sub-product that the EPP operation is intended for.

```

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

<schema targetNamespace="http://www.Verisign-grs.com/epp/namestoreExt-1.1"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:namestoreExt="http://www.Verisign-grs.com/epp/namestoreExt-1.1"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0 Namestore extension schema
      for destination registry routing.
    </documentation>
  </annotation>

  <!-- General Data types. -->
  <simpleType name="subProductType">
    <restriction base="token">
      <minLength value="1"/>
      <maxLength value="64"/>
    </restriction>
  </simpleType>

  <complexType name="extAnyType">
    <sequence>
      <any namespace="##other" maxOccurs="unbounded"/>
    </sequence>
  </complexType>

```

```

    </sequence>
</complexType>

<!-- Child elements found in EPP commands and responses. -->
<element name="namestoreExt" type="namestoreExt:namestoreExtType"/>

<!-- Child elements of the <product> command. -->
<complexType name="namestoreExtType">
  <sequence>
    <element name="subProduct"
      type="namestoreExt:subProductType"/>
  </sequence>
</complexType>

<!-- Child response elements. -->
<element name="nsExtErrData" type="namestoreExt:nsExtErrDataType"/>

<!-- <prdErrData> error response elements. -->
<complexType name="nsExtErrDataType">
  <sequence>
    <element name="msg" type="namestoreExt:msgType"/>
  </sequence>
</complexType>

<!-- <prdErrData> <msg> element. -->
<complexType name="msgType">
  <simpleContent>
    <extension base="normalizedString">
      <attribute name="code"
        type="namestoreExt:prdErrCodeType" use="required"/>
      <attribute name="lang" type="language" default="en"/>
    </extension>
  </simpleContent>
</complexType>

<!-- <prdErrData> error response codes. -->
<simpleType name="prdErrCodeType">
  <restriction base="unsignedShort">
    <enumeration value="1"/>
  </restriction>
</simpleType>

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

```

XML templates/schema for lowbalance-poll-1.0 (Low Balance Mapping)

- **Template:** The templates for lowbalance-poll-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/low-balance-mapping.pdf>.
- **Schema:** This schema describes the extension mapping for the account low balance notification. The mapping extends the EPP base mapping so an account holder can be notified via EPP poll messages whenever the available credit for an account reaches or goes below the credit threshold.

```

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

<schema targetNamespace="http://www.Verisign.com/epp/lowbalance-poll-1.0"
  xmlns:lowbalance-poll="http://www.Verisign.com/epp/lowbalance-poll-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"
  schemaLocation="eppcom-1.0.xsd"/>

<annotation>
  <documentation>
    Extensible Provisioning Protocol v1.0
    Verisign poll notification specification for low balance notifications.
  </documentation>
</annotation>

<!--Child elements found in EPP commands.-->
<element name="pollData" type="lowbalance-poll:pollDataType"/>

<!--Child elements of the <notifyData> element for the low balance.-->
<complexType name="pollDataType">
  <sequence>
    <element name="registrarName" type="eppcom:labelType"/>
    <element name="creditLimit" type="normalizedString"/>
    <element name="creditThreshold"
      type="lowbalance-poll:thresholdType"/>
    <element name="availableCredit" type="normalizedString"/>
  </sequence>
</complexType>

<complexType name="thresholdType">
  <simpleContent>
    <extension base="normalizedString">
      <attribute name="type"
        type="lowbalance-poll:thresholdValueType"
        use="required"/>
    </extension>
  </simpleContent>
</complexType>

<simpleType name="thresholdValueType">
  <restriction base="token">
    <enumeration value="FIXED"/>
    <enumeration value="PERCENT"/>
  </restriction>
</simpleType>

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

```

XML templates/schema for authExt-1.0 (Two-Factor Authentication Extension)

- **Template:** The templates for authExt-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/twofactor-auth-ext.pdf>.
- **Schema:** This schema describes the extension mapping for the EPP extension to pass the two-factor authentication information for protected operations.

```

<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns:authExt="http://www.verisign.com/epp/authExt-1.0"
  xmlns:authSession="http://www.verisign.com/epp/authSession-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.verisign.com/epp/authExt-1.0"

```

```

elementFormDefault="qualified">

<import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
  schemaLocation="eppcom-1.0.xsd" />
<import namespace="http://www.verisign.com/epp/authSession-1.0"
  schemaLocation="authSession-1.0.xsd" />
<annotation>
  <documentation>
    Extensible Provisioning Protocol v1.0
    Two Factor Authentication Extension
  </documentation>
</annotation>
<element name="authExt" type="authExt:authExtType" />
<complexType name="authExtType">
  <sequence>
    <element name="authActions" type="authExt:authActionsType" />
  </sequence>
</complexType>

<complexType name="authActionsType">
  <sequence>
    <element name="validate" type="authExt:validateType"
      minOccurs="0" />
    <element name="bind" type="authExt:bindType" minOccurs="0" />
    <element name="unbind" type="authSession:credentialListType"
      minOccurs="0" />
  </sequence>
</complexType>

<element name="info">
  <complexType>
    <sequence>
      <element name="flag" type="boolean" />
    </sequence>
  </complexType>
</element>

<!-- Info response -->
<element name="infData" type="authExt:infDataType" />
<complexType name="infDataType">
  <sequence>
    <element name="credentialId" type="eppcom:labelType"
      minOccurs="0" maxOccurs="unbounded" />
  </sequence>
</complexType>

<complexType name="bindType">
  <choice>
    <element name="tokenDataList" type="authExt:tokenDataList" />
    <element name="otpDataList" type="authExt:otpDataList" />
  </choice>
</complexType>

<complexType name="validateType">
  <sequence>
    <choice>
      <element name="tokenData" type="authExt:tokenDataType" />
      <element name="otpData" type="authExt:otpDataType" />
    </choice>
  </sequence>
</complexType>

```

```

<complexType name="tokenDataList">
  <sequence>
    <element name="tokenData" type="authExt:tokenDataType"
      maxOccurs="unbounded" />
  </sequence>
</complexType>

<complexType name="tokenDataType">
  <sequence>
    <element name="tokenProvider" type="authSession:svcType" />
    <choice>
      <element name="genericToken" type="string" />
      <element name="token" type="authSession:tokenType" />
    </choice>
    <element name="signature" type="base64Binary" />
  </sequence>
</complexType>

<complexType name="otpDataType">
  <sequence>
    <element name="serviceProvider" type="authSession:svcType" />
    <element name="otp" type="authSession:otpType" />
    <element name="credentialList"
type="authSession:credentialListType" />
  </sequence>
</complexType>

<complexType name="otpDataList">
  <sequence>
    <element name="otpData" type="authExt:otpDataType"
      maxOccurs="unbounded" />
  </sequence>
</complexType>

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

```

XML templates/schema for authSession-1.0 (Two Factor Authentication Session Mapping)

- **Template:** The templates for authSession-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisign.com/assets/twofactor-auth-session.pdf>.
- **Schema:** This schema describes the extension mapping for the EPP extension to create a two factor authentication session that can be used with the Two Factor Authentication Extension for protected operations.

```

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

  <import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
    schemaLocation="eppcom-1.0.xsd" />
  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      Two Factor Authentication Session Mapping
    </documentation>
  </annotation>

```



```

</annotation>
<!-- Create command -->
<element name="create" type="authSession:createType" />

<complexType name="createType">
  <sequence>
    <element name="serviceProvider" type="authSession:svcType" />
    <element name="otp" type="authSession:otpType" />
    <element name="credentialList"
type="authSession:credentialListType" />
  </sequence>
</complexType>

<!-- Create response -->
<element name="creData" type="authSession:creDataType" />

<complexType name="creDataType">
  <sequence>
    <element name="token" type="authSession:tokenType" />
    <element name="signature" type="base64Binary" />
  </sequence>
</complexType>

<complexType name="credentialListType">
  <sequence>
    <element name="credentialId" type="eppcom:labelType"
maxOccurs="unbounded" />
  </sequence>
</complexType>

<simpleType name="otpType">
  <restriction base="token">
    <minLength value="5" />
    <maxLength value="20" />
  </restriction>
</simpleType>

<simpleType name="svcType">
  <restriction base="token">
    <minLength value="3" />
    <maxLength value="10" />
  </restriction>
</simpleType>

<complexType name="tokenType">
  <sequence>
    <sequence>
      <element name="serviceProvider"
type="authSession:svcType" />
      <element name="credentialId" type="eppcom:labelType" />
      <element name="crDate" type="dateTime" />
      <element name="exDate" type="dateTime" />
    </sequence>
  </sequence>
</complexType>

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

```

XML templates/schema for zoneMgt-1.0 (Zone Management Extension)

- **Template:** The templates for zoneMgt-1.0 can be found in Chapter 3, EPP Command Mapping of the relevant EPP documentation, <http://www.verisigninc.com/assets/zone-management.pdf>.
- **Schema:** This schema describes the extension mapping for the EPP extension to manage the domain name DNS zone.

```
<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns:zoneMgt="http://www.verisign.com/epp/zoneMgt-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://www.verisign.com/epp/zoneMgt-1.0"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      Zone Management
    </documentation>
  </annotation>

  <!-- DNS Resource Record -->
  <complexType name="rrec">
    <sequence>
      <element name="type" type="token"/>
      <element name="class" type="token" minOccurs="0" default="IN"/>
      <element name="ttl" type="integer" minOccurs="0"/>
      <element name="rdata" type="token"/>
    </sequence>
  </complexType>

  <!-- DNS Resource Record List -->
  <complexType name="rrecList">
    <sequence>
      <element name="rrec" type="zoneMgt:rrec" maxOccurs="unbounded"/>
    </sequence>
  </complexType>

  <!-- Create Command -->
  <element name="create" type="zoneMgt:rrecList"/>

  <!-- Info Response -->
  <element name="infData" type="zoneMgt:rrecList"/>

  <!-- Update Command -->
  <element name="update">
    <complexType>
      <sequence>
        <element name="add" type="zoneMgt:rrecList" minOccurs="0"/>
        <element name="rem" type="zoneMgt:rrecList" minOccurs="0"/>
      </sequence>
    </complexType>
  </element>

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