

Promotion Info EPP Extension for the TANGO Registration System

Knipp Medien und Kommunikation GmbH

1. EPP Command for Obtaining Information about Promotion Codes

The TANGO Registration System provides a proprietary EPP command for the use of obtaining information about promotion codes. Promotion codes are issued by the registry and enable registrants to benefit from specially priced domain creation and renewal offers. The command described in the document allows registrars to determine some properties of a given promotion code before attempting to use it.

1.1 Introduction

The EPP command covered in this document serves the purpose of inquiring information about promotion codes issued by the registry.

In particular, it solves a problem that registrars will be faced with when they are being presented with a promotion code by their customer - namely to determine (among other things)

- whether the promotion code is valid,
- whether it may be used for the requested transaction,
- whether the connected promotion is still running, and
- which price the promotion code will associate with the transaction.

This document describes a mapping for version 1.0 of the Extensible Provisioning Protocol (EPP) described in RFC 5730, using the Extensible Markup Language (XML) and XML Schema notation.

The EPP mapping defines an info command in a dedicated, new "promotion" object namespace, since none of the existing EPP object namespaces (domains, contact, host) was deemed suitable to meet the requirements of inquiring promotion information; in particular, implementing the command as an extension to the <domain:info> command would not have allowed the inquiry of promotion information without the specification of a domain name.

In the context of EPP, a promotion (addressed by an existing promotion code issues as part of the promotion) is regarded as an object in the registry, just like domains, contacts and hosts. However, unlike those standard EPP objects, promotions are "pseudo" objects in the sense that they can only be inquired, but not created, deleted or updated by the registrar.

Once the information above has been determined for a promotion code using the command described in this document, the registrar may choose to perform the requested transaction using the specified promotion code, for which a separate, dedicated promotion extension to the domain create or domain renew EPP commands (XML namespace "http://xmlns.tango-rs.net/epp/promotion-1.0", described in a separate document) must be used.

1.2 EPP Command Mapping

This section deals with the specific command mappings for promotion code information.

In the following, the respective root elements of the commands are mentioned. If used, they must be placed or expected within the proper location in the XML document representing the EPP command or response, as described in RFC 5730. Note that the use of the "promo:" XML namespace prefix is for documentation purposes only. Conforming to the "Namespaces in XML 1.1" standard, EPP and the registry implementation take only the associated namespace URI into account, and not the prefix itself. So actually any prefix or even the default namespace may be used in requests and must be expected in responses.

1.2.1 EPP Query Commands

This mapping only defines a single query command, namely a <promo:info> command to ask for detailed information associated with a promotion.

1.2.1.1 EPP <promo:info> Command

The content of the <promo:info> command consists of the following elements:

- A required <promo:code> element containing the promotion code which shall be inquired.
- An optional <promo:domain> element, containing a domain name in a nested <promo:name> element. If specified, the system will check the domain name against the rule engine, i.e. the system returns whether the domain name is valid with this registration. Furthermore, for renewals it is checked if the promotion code would still be usable for the given domain.
- An optional <promo:pricing> element which can be used to ask the registry system to return pricing information for a certain operation ("create" or "renew", each with a specified period).
 - To check the pricing for a create operation, the <promo:pricing> element must contain a <promo:create> element with a nested <promo:period> element. The <promo:period> element must contain a number specifying the initial registration period of the domain; the time unit ("y" for years or "m" for month) must be specified by the required "unit" attribute of the <promo:period> element.
 - To check the pricing for a renew operation, the <promo:pricing> element must contain a <promo:renew> element with a nested <promo:period> element. The <promo:period> element must contain a number specifying the period for the renewal; the time unit ("y" for years or "m" for month) must be specified by the required "unit" attribute of the <promo:period> element.

- An optional <promo:refdate> element which can be used to specify a reference date for the use of the promotion code to query a price in the past or in the future. If not specified, the reference date defaults to the current date (i.e. the date when the EPP request was received by the system).
- An optional <promo:phase> element which can be used to specify a launch phase (according to <https://tools.ietf.org/html/draft-ietf-eppext-launchphase-05>) for which the promotion code shall be used. The <promo:phase> element may contain the standard names "sunrise", "landrush", "claims", "open" or "custom". In the latter case, the actual name of the custom phase must be specified using the optional "name" attribute of the <promo:phase> element. If the launch phase is specified, the <promo:info> command will return information based on the premise that the promotion code will be used in the specified launch phase.

The information specified in the request is subject to the following validations/rules:

- The specification of the promotion code is mandatory.
- If the promotion code cannot be found, an error is generated ("Object does not exist") and the processing is terminated.
- The domain name is not checked against the database regarding whether it already exists or not. This should be done by using the <domain:check> EPP command. It is also not an error to specify an existing domain name, however no data is taken from a possibly existing domain, e.g. if a pricing request and an existing domain name are specified, it is not tested whether the operation would exceed the maximum registration period.
- If pricing information is requested and the given period value is lower than the minimum period value for the given operation, a respective error is generated ("Parameter value range error").
- If pricing information is requested for a certain operation but the promotion code is not valid for this operation, an error is generated ("Parameter value policy error").
- If a launch phase is specified, it must exist and be active at the reference date; otherwise, an error is generated ("Parameter value range error").

If it succeeds, the following data is returned in the response for a <promo:info> command (as the content of the response's <promo:infData> element):

- if a promotion was found for the given code, a <promo:promo> element will be present containing
 - a mandatory <promo:promotionName> element containing the name of the promotion
 - an optional <promo:validity> element specifying the promotion's validity period via its "from" and "to" attributes (this element is only present if the promotion's validity period is limited)

- a mandatory <promo:utilization> element containing information about the permitted utilization of the promotion code; its "avail" boolean attribute signals whether the use of the specified promotion code is allowed in general or not; in both cases, nested elements of the <promo:utilization> element contain more detailed information:
 - a mandatory <promo:enabled> boolean element specifies whether the promotion code is generally usable ("enabled" within the registry system)
 - a mandatory <promo:operations> element specified the operations for which the promotion code may be used ("create" and/or "renew")
 - a mandatory <promo:codeUsable> boolean element specifies whether the code is usable, i.e. if it has not yet reached its use limit
 - a mandatory <promo:invalidityPeriod> boolean element specifies whether the reference date is within the promotion code's validity period
 - an optional <promo:validDomainName> boolean element specifies whether the domain name is valid for the operation; this element is only present if a domain name was specified in the command
- if pricing information was requested via the <promo:pricing> element in the command, a <promo:pricing> element will be present containing a <promo:total> element, specifying the price of the operation via its "value" and "mu" attributes; "mu" represents the monetary unit (as a 3-character currency specifier), "value" the amount (note that debits are returned as positive values, credits as negative values)

Please refer to the "Examples" section below for an example <promo:info> command and response.

1.2.2 EPP Transform Commands

This mapping does not define any transform commands. From the registrar's point of view, promotions are immutable objects.

1.3 Formal Syntax (Schema Definition)

```
<?xml version="1.0" encoding="UTF-8"?>
<schema targetNamespace="http://xmlns.tango-rs.net/epp/promotion-info-1.0"
xmlns="http://www.w3.org/2001/XMLSchema"
xmlns:promo="http://xmlns.tango-rs.net/epp/promotion-info-1.0"
elementFormDefault="qualified"
attributeFormDefault="unqualified">

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      object extension schema for getting information about promotion codes
    </documentation>
```

```

</annotation>

<!-- elements for EPP commands -->
<element name="info" type="promo:infoType"/>

<!-- child elements found in EPP responses -->
<element name="infData" type="promo:infDataType"/>

<!-- type definitions -->
<complexType name="infoType">
  <sequence>
    <element name="code" type="promo:promotionCodeType"/>
    <element name="domain" type="promo:domainNameType" minOccurs="0"/>
    <element name="pricing" type="promo:pricingType" minOccurs="0"/>
    <element name="refdate" type="dateTime" minOccurs="0"/>
    <element name="phase" type="promo:phaseType" minOccurs="0"/>
  </sequence>
</complexType>

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

<complexType name="domainNameType">
  <sequence>
    <element name="name" type="promo:labelType"/>
  </sequence>
</complexType>

<simpleType name="labelType">
  <restriction base="token">
    <minLength value="1"/>
    <maxLength value="255"/>
  </restriction>
</simpleType>

<complexType name="pricingType">
  <choice>
    <element name="create" type="promo:pricingPeriodType"/>
    <element name="renew" type="promo:pricingPeriodType"/>
  </choice>
</complexType>

<complexType name="pricingPeriodType">
  <sequence>
    <element name="period" type="promo:periodType"/>
  </sequence>
</complexType>

<complexType name="periodType">
  <simpleContent>
    <extension base="promo:pLimitType">
      <attribute name="unit" type="promo:pUnitType"
        use="required"/>
    </extension>
  </simpleContent>
</complexType>

<simpleType name="pLimitType">
  <restriction base="unsignedShort">
    <minInclusive value="1"/>
    <maxInclusive value="99"/>
  </restriction>
</simpleType>

```

```

<simpleType name="pUnitType">
  <restriction base="token">
    <enumeration value="y"/>
    <enumeration value="m"/>
  </restriction>
</simpleType>

<!-- response data types -->

<complexType name="infDataType">
  <sequence>
    <!-- information about the promotion; only present if a promotion was
         found for the given code -->
    <element name="promo" minOccurs="0">
      <complexType>
        <sequence>
          <!-- the promotion name -->
          <element name="promotionName" type="string"/>

          <!-- the validity period; only present if the validity is
               limited -->
          <element name="validity" type="promo:validityPeriodType"
                    minOccurs="0"/>

          <!-- details about the availability of the record -->
          <element name="utilization" type="promo:utilizationType"/>
        </sequence>
      </complexType>
    </element>
    <!-- pricing information; only present if an operation was specified -->
    <element name="pricing" minOccurs="0">
      <complexType>
        <sequence>
          <element name="total" type="promo:pricingTotalType"/>
        </sequence>
      </complexType>
    </element>
  </sequence>
</complexType>

<complexType name="validityPeriodType">
  <attribute name="from" type="dateTime"/>
  <attribute name="to" type="dateTime"/>
</complexType>

<complexType name="utilizationType">
  <!-- details about the result -->
  <sequence>
    <element name="enabled" type="boolean"/>
    <element name="operations" type="promo:operationListType"/>
    <element name="codeUsable" type="boolean"/>
    <element name="inValidityPeriod" type="boolean"/>

    <!-- only present if a domain name was specified -->
    <element name="validDomainName" type="boolean" minOccurs="0"/>
  </sequence>
  <!-- overall result -->
  <attribute name="avail" type="boolean" use="required"/>
</complexType>

<simpleType name="operationListType">
  <annotation>
    <documentation>a list of available operations</documentation>
  </annotation>
  <list itemType="promo:operationType"/>
</simpleType>

<simpleType name="operationType">
  <restriction base="token">
    <enumeration value="create"/>
    <enumeration value="renew"/>
  </restriction>

```

```

</simpleType>

<complexType name="pricingTotalType">
  <attribute name="value" type="decimal" use="required"/>
  <attribute name="mu" type="token" use="required"/>
</complexType>

<!-- launch phase specification, same syntax as defined in
urn:ietf:params:xml:ns:launch-1.0 -->
<complexType name="phaseType">
  <simpleContent>
    <extension base="promo:phaseTypeValue">
      <attribute name="name" type="token"/>
    </extension>
  </simpleContent>
</complexType>

<!-- enumeration for the standard launch phase values -->
<simpleType name="phaseTypeValue">
  <restriction base="token">
    <enumeration value="sunrise"/>
    <enumeration value="landrush"/>
    <enumeration value="claims"/>
    <enumeration value="open"/>
    <enumeration value="custom"/>
  </restriction>
</simpleType>
</schema>

```

1.4 Examples

In the following examples, "C:" represents lines sent by an EPP client and "S:" represents lines returned by the EPP server.

1.4.1 EPP <promo:info> Command

1.4.1.1 Example <promo:info> command

This example <promo:info> command inquires information about the promotion code "EXAMPLE-PROMO-1231", using all optional parameters:

```

C: <?xml version="1.0" encoding="UTF-8" standalone="no"?>
C: <epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
C:   <command>
C:     <info>
C:       <promo:info xmlns:promo="http://xmlns.tango-rs.net/epp/promotion-info-1.0">
C:         <!-- mandatory ENS ID/promotion code specification -->
C:         <promo:code>EXAMPLE-PROMO-1231</promo:code>
C:         <!-- optional domain name specification -->
C:         <promo:domain>
C:           <promo:name>example.tld</promo:name>
C:         </promo:domain>
C:         <!-- optional request for pricing information -->
C:         <promo:pricing>
C:           <promo:create>
C:             <promo:period unit="y">2</promo:period>
C:           </promo:create>
C:         </promo:pricing>
C:       </promo:info>
C:     </info>
C:   </command>
C: </epp>

```

```
C:      <!-- optional reference date -->
C:      <promo:refdate>2015-04-15T10:00:00.0Z</promo:refdate>
C:
C:      <!-- optional launch pase -->
C:      <promo:phase name="special-phase">custom</promo:phase>
C:
C:      </promo:info>
C:    </info>
C:    <c1TRID>ABC-12345</c1TRID>
C:  </command>
C: </epp>
```

1.4.1.2 Example <promo:info> response

This example <promo:info> response contains information about the inquired promotion code "EXAMPLE-PROMO-1231", showing all optional data:

```
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:       <promo:infData xmlns:promo="http://xmlns.domini.cat/epp/promo-1.0">
S:         <promo:promo>
S:           <!-- the promotion's name -->
S:           <promo:promotionName>Promotion 2015</promo:promotionName>
S:
S:           <!-- optional: the validity period -->
S:           <promo:validity from="2015-01-01T00:00:00.0Z"
S:             to="2015-04-01T00:00:00.0Z"/>
S:
S:           <!-- details about the availability of the record -->
S:           <promo:utilization avail="true"> <!-- overall result -->
S:
S:             <!-- record enabled in the system? -->
S:             <promo:enabled>true</promo:enabled>
S:
S:             <!-- available operations -->
S:             <promo:operations>create renew</promo:operations>
S:
S:             <!-- is the code usable? -->
S:             <promo:codeUsable>true</promo:codeUsable>
S:
S:             <!-- is it already/still valid? -->
S:             <promo:inValidityPeriod>true</promo:inValidityPeriod>
S:
S:             <!-- optional: is the given domain name eligible? -->
S:             <promo:validDomainName>true</promo:validDomainName>
S:
S:           </promo:utilization>
S:         </promo:promo>
S:
S:         <!-- the pricing information, with value and unit -->
S:         <promo:pricing>
S:           <promo:total value="20.00" mu="EUR"/>
S:         </promo:pricing>
S:       </promo:infData>
S:     </resData>
S:   </response>
S: </epp>
```