



**EXTENSIBLE PROVISIONING PROTOCOL  
MAPPING:  
<NAMEWATCH>**

**Version 1.1**

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# 1 Introduction

This document describes the version 1.0 of the Extensible Provisioning Protocol (EPP) mapping for the provisioning and management of NameWatch Monitor Service objects. This mapping is specified using the Extensible Markup Language (XML) 1.0 as described in [XML] and XML Schema notation as described in [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 this 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 NameWatch object has attributes and associated values that may be viewed and modified by the sponsoring client or the server. This section describes each attribute type in detail.

### 2.1 NameWatch Name

The syntax for NameWatch name described in this document MUST consist entirely of ASCII letters (case insensitive), digits, and hyphens and may not exceed 63 characters in length. These conformance requirements MAY change as a result of progressing work in developing standards for internationalized domain names.

### 2.2 Contact and Client Identifiers

All EPP contacts are identified by a server-unique identifier. Contact identifiers are character strings with a specified minimum length, a specified maximum length, and a specified format. Contact identifiers use the "clIDType" client identifier syntax described in [EPP].

### 2.3 NameWatch Reports Email Address

NameWatch service provides individual reports for each registration. The reports are sent to the email address provided by the sponsoring client.

E-mail address syntax is defined in [RFC2822]. This mapping does not prescribe minimum or maximum lengths for character strings used to represent e-mail addresses.

### 2.4 Status Values

A NameWatch object MUST always have at least one associated status value. Status values MAY be set only by the client that sponsors a NameWatch object and by the server on which the object resides. A client MAY change the status of a NameWatch object using the EPP <update> command. Each status value MAY be accompanied by a string of human-readable text that describes the rationale for the status applied to the object.

A client MUST NOT alter status values set by the server. A server MAY alter or override status values set by a client subject to local server policies.

Status values that may be added or removed by a client are prefixed with "client". Corresponding status values that may be added or removed by a server are prefixed with "server". Status values that do not begin with either "client" or "server" are server-managed.

Status Value Descriptions:

clientDeleteProhibited, serverDeleteProhibited

Requests to delete the object MUST be rejected.

clientHold, serverHold

NameWatch reporting MUST be withheld.

clientRenewProhibited, serverRenewProhibited

Requests to renew the object MUST be rejected.

clientTransferProhibited, serverTransferProhibited

Requests to transfer the object MUST be rejected.

clientUpdateProhibited, serverUpdateProhibited

Requests to update the object (other than to remove this status) MUST be rejected.

ok

This is the nominal status value for an object that has no pending operations or prohibitions.

pendingDelete

A delete request has been received for the object, but the object has not yet been purged from the server database.

pendingTransfer

A transfer request has been received for the object, and completion of the request is pending. Transform commands other than <transfer> MUST be rejected while an object is in this state.

"ok" status MUST NOT be combined with any other status.

"pendingDelete" status MUST NOT be combined with either

"clientDeleteProhibited" or "serverDeleteProhibited" status.

"pendingTransfer" status MUST NOT be combined with either

"clientTransferProhibited" or "serverTransferProhibited" status.

All other status value combinations are valid.

## 2.5 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 defined in [ISO8601] MUST be used to represent date-time values as XML Schema does not support truncated date-time forms.

## 2.6 Validity Periods

A NameWatch object MAY have a specified validity period. If server policy supports NameWatch object validity periods, the validity period is defined when a NameWatch object is created, and it MAY be extended by the EPP <renew> or <transfer> commands. As a matter of server policy, this specification does not define actions to be taken upon expiration of a NameWatch object's validity period.

Validity periods are measured in years or months with the appropriate units specified using the "unit" attribute. Valid values for the "unit" attribute are "y" for years and "m" for months. The minimum

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allowable period value is one decimal (1). The maximum allowable value is ninety-nine decimal (99). A server MAY support a lower maximum value.

## **2.7 Authorization Information**

Authorization information is associated with NameWatch objects to facilitate transfer operations. Authorization information is assigned when a NameWatch object is created, and it MAY be updated in the future. This specification describes password-based authorization information, though other mechanisms are possible.

## 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 in provisioning and managing NameWatch monitor service via EPP.

### 3.1 EPP Query Commands

EPP provides two commands to retrieve NameWatch information: <info> to retrieve detailed information associated with a NameWatch object, and <transfer> to retrieve NameWatch object transfer status information.

#### 3.1.1 EPP <check> Command

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



### 3.1.2 EPP <info> Command

The EPP <info> command is used to retrieve information associated with a NameWatch object. The response to this command MAY vary depending on the identity of the querying client, use of authorization information, and server policy towards unauthorized clients. If the querying client is the sponsoring client, all available information MUST be returned. If the querying client is not the sponsoring client, but the client provides valid authorization information, all available information MUST be returned. If the querying client is not the sponsoring client, and the client does not provide valid authorization information, server policy determines which OPTIONAL elements are returned.

In addition to the standard EPP command elements, the <info> command MUST contain a <nameWatch:info> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:info> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the NameWatch object when the object was created.
- An OPTIONAL <nameWatch:authInfo> element that contains authorization information associated with the NameWatch object or authorization information associated with the NameWatch object's registrant. An OPTIONAL "roid" attribute MUST be used to identify the registrant object if and only if the given authInfo is associated with a registrant object, and not the NameWatch object itself. If this element is not provided or if the authorization information is invalid, server policy determines if the command is rejected or if response information will be returned to the client.

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:      <nameWatch:info
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:        nameWatch-1.0.xsd">
C:          <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:        </nameWatch:info>
C:      </info>
C:    </command>
C:  </epp>
```

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

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- A <nameWatch:name> element that contains the NameWatch name.
- An OPTIONAL <nameWatch:registrant> element that contains the identifier for the human or organizational social information (contact) object to be associated with the NameWatch object as the object registrant. This object identifier MUST be known to the server before the contact object can be associated with the NameWatch object.
- An OPTIONAL <nameWatch:rptTo> element that contains the e-mail address to receive the NameWatch reports. This element MUST contain a "freq" attribute whose value indicates the report frequency. The "freq" attribute value MUST be "daily", "weekly", or "monthly".
- Zero or more OPTIONAL <nameWatch:status> elements that contain the current status descriptors associated with the NameWatch.
- A <nameWatch:clID> element that contains the identifier of the sponsoring client.
- An OPTIONAL <nameWatch:crID> element that contains the identifier of the client that created the NameWatch object.
- An OPTIONAL <nameWatch:crDate> element that contains the date and time of NameWatch object creation.
- An OPTIONAL <nameWatch:upID> element that contains the identifier of the client that last updated the NameWatch object. This element MUST NOT be present if the NameWatch has never been modified.
- An OPTIONAL <nameWatch:upDate> element that contains the date and time of the most recent NameWatch object modification. This element MUST NOT be present if the NameWatch object has never been modified.
- An OPTIONAL <nameWatch:exDate> element that contains the date and time identifying the end of the NameWatch object's registration period.
- An OPTIONAL <nameWatch:trDate> elements that contains the date and time of the most recent successful NameWatch object transfer. This element MUST NOT be provided if the NameWatch object has never been transferred.
- An OPTIONAL <nameWatch:authInfo> element that contains authorization information associated with the NameWatch object. This element MUST NOT be provided if the querying client is not the current sponsoring client.

Example <info> response for an authorized client:

```
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>
```

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```

S: </result>
S: <resData>
S: <nameWatch:infData
S:   xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:   xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:   nameWatch-1.0.xsd">
S:   <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:   <nameWatch:name>doe</nameWatch:name>
S:   <nameWatch:registrant>jdl1234</nameWatch:registrant>
S:   <nameWatch:rptTo
S:     freq="weekly">jdoe@example.com</nameWatch:rptTo>
S:   <nameWatch:status s="ok"/>
S:   <nameWatch:clID>ClientX</nameWatch:clID>
S:   <nameWatch:crID>ClientY</nameWatch:crID>
S:   <nameWatch:crDate>1999-04-03T22:00:00.0Z</nameWatch:crDate>
S:   <nameWatch:upID>ClientX</nameWatch:upID>
S:   <nameWatch:upDate>1999-12-03T09:00:00.0Z</nameWatch:upDate>
S:   <nameWatch:exDate>2002-04-03T22:00:00.0Z</nameWatch:exDate>
S:   <nameWatch:trDate>2000-04-08T09:00:00.0Z</nameWatch:trDate>
S:   <nameWatch:authInfo>
S:     <nameWatch:pw>2fooBAR</nameWatch:pw>
S:   </nameWatch:authInfo>
S: </nameWatch:infData>
S: </resData>
S: <trID>
S:   <clTRID>ABC-12345</clTRID>
S:   <svTRID>54322-XYZ</svTRID>
S: </trID>
S: </response>
S:</epp>

```

A server with a different information return policy MAY provide less information in a response.

Example <info> response for an unauthorized client:

```

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:     <nameWatch:infData
S:       xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:       xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:       nameWatch-1.0.xsd">
S:       <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:       <nameWatch:name>doe</nameWatch:name>
S:       <nameWatch:clID>ClientX</nameWatch:clID>
S:     </nameWatch:infData>
S:   </resData>
S:   <trID>
S:     <clTRID>ABC-12345</clTRID>
S:     <svTRID>54322-XYZ</svTRID>
S:   </trID>
S: </response>
S:</epp>

```



### 3.1.3 EPP <transfer> Command

The EPP <transfer> command provides a query operation that allows a client to determine real-time status of pending and completed transfer requests. In addition to the standard EPP command elements, the <transfer> command MUST contain an "op" attribute with value "query", and a <nameWatch:transfer> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:transfer> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- An OPTIONAL <nameWatch:authInfo> element that contains authorization information associated with the NameWatch object or authorization information associated with the NameWatch object's registrant. An OPTIONAL "roid" attribute MUST be used to identify the registrant object if and only if the given authInfo is associated with a registrant object, and not the NameWatch object itself. If this element is not provided or if the authorization information is invalid, server policy determines if the command is rejected or if response information will be returned to the client.

Example <transfer> query 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:    <transfer op="query">
C:      <nameWatch:transfer
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:          nameWatch-1.0.xsd">
C:        <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:      </nameWatch:transfer>
C:    </transfer>
C:  </command>
C:</epp>
```

When a <transfer> query command has been processed successfully, the EPP <resData> element MUST contain a child <nameWatch:trnData> element that identifies the NameWatch namespace and the location of the NameWatch schema. The <nameWatch:trnData> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- A <nameWatch:trStatus> element that contains the state of the most recent transfer request.

- A <nameWatch:reID> element that contains the identifier of the client that requested the object transfer.
- A <nameWatch:reDate> element that contains the date and time that the transfer was requested.
- A <nameWatch:acID> element that contains the identifier of the client that SHOULD act upon the transfer request.
- A <nameWatch:acDate> element that contains the date and time of a required or completed response. For a PENDING request, the value identifies the date and time by which a response is required before an automated response action MUST be taken by the server. For all other status types, the value identifies the date and time when the request was completed.
- An OPTIONAL <nameWatch:exDate> element that contains the end of the NameWatch object's validity period if the <transfer> command caused or causes a change in the validity period.

Example <transfer> query 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:      <nameWatch:trnData
S:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:          nameWatch-1.0.xsd">
S:          <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:          <nameWatch:trStatus>pending</nameWatch:trStatus>
S:          <nameWatch:reID>ClientX</nameWatch:reID>
S:          <nameWatch:reDate>2000-06-06T22:00:00.0Z</nameWatch:reDate>
S:          <nameWatch:acID>ClientY</nameWatch:acID>
S:          <nameWatch:acDate>2000-06-11T22:00:00.0Z</nameWatch:acDate>
S:          <nameWatch:exDate>2002-09-08T22:00:00.0Z</nameWatch:exDate>
S:        </nameWatch:trnData>
S:      </resData>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54322-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

An EPP error response MUST be returned if a <transfer> query command can not be processed for any reason.

## 3.2 EPP Transform Commands

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

### 3.2.1 EPP <create> Command

The EPP <create> command provides a transform operation that allows a client to create a NameWatch object. In addition to the standard EPP command elements, the <create> command MUST contain a <nameWatch:create> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:create> element contains the following child elements:

- A <nameWatch:name> element that contains the fully qualified name of the NameWatch object to be created.

- An <nameWatch:registrant> element that contains the identifier for the human or organizational social information (contact) object to be associated with the NameWatch object as the object registrant. This object identifier MUST be known to the server before the contact object can be associated with the NameWatch object. The EPP mapping for contact objects is described in [EPP-C].

- A <nameWatch:rptTo> element that contains the e-mail address to receive the NameWatch reports. This element MUST contain a "freq" attribute whose value indicates the report frequency. The "freq" attribute value MUST be "daily", "weekly", or "monthly".

- An OPTIONAL <nameWatch:period> element that contains the initial registration period of the NameWatch object. A server MAY define a default initial registration period if not specified by the client.

- A <nameWatch:authInfo> element that contains authorization information to be associated with the NameWatch object.

Example <create> 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:    <create>
C:      <nameWatch:create
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:          nameWatch-1.0.xsd">
C:          <nameWatch:name>doe</nameWatch:name>
C:          <nameWatch:registrant>jdl234</nameWatch:registrant>
C:          <nameWatch:rptTo
C:            freq="weekly">jdoe@example.com</nameWatch:rptTo>
C:          <nameWatch:period unit="y">1</nameWatch:period>
```

```

C:      <nameWatch:authInfo>
C:      <nameWatch:pw>2fooBAR</nameWatch:pw>
C:      </nameWatch:authInfo>
C:      </nameWatch:create>
C:      </create>
C:      <clTRID>ABC-12345</clTRID>
C:      </command>
C: </epp>

```

When a <create> command has been processed successfully, the EPP <resData> element MUST contain a child <nameWatch:creData> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:creData> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- A <nameWatch:name> element that contains the NameWatch name.
- A <nameWatch:crDate> element that contains the date and time of NameWatch object creation.
- A <nameWatch:exDate> element that contains the date and time identifying the end of the NameWatch object's registration period.

Example <create> 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:      <nameWatch:creData
S:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:        nameWatch-1.0.xsd">
S:        <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:        <nameWatch:name>doe</nameWatch:name>
S:        <nameWatch:crDate>1999-04-03T22:00:00.0Z</nameWatch:crDate>
S:        <nameWatch:exDate>2000-04-03T22:00:00.0Z</nameWatch:exDate>
S:      </nameWatch:creData>
S:    </resData>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>

```

An EPP error response MUST be returned if a <create> command cannot be processed for any reason.



### 3.2.2 EPP <delete> Command

The EPP <delete> command provides a transform operation that allows a client to delete a nameWatch object. In addition to the standard EPP command elements, the <delete> command MUST contain a <nameWatch:delete> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:delete> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.

Example <delete> 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:    <delete>
C:      <nameWatch:delete
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:          nameWatch-1.0.xsd">
C:          <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:        </nameWatch:delete>
C:      </delete>
C:    </command>
C:  </epp>
```

When a <delete> command has been processed successfully, a server MUST respond with an EPP response with no <resData> element.

Example <delete> 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:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

An EPP error response MUST be returned if a <delete> command cannot be processed for any reason.

### 3.2.3 EPP <renew> Command

The EPP <renew> command provides a transform operation that allows a client to extend the validity period of a nameWatch object. In addition to the standard EPP command elements, the <renew> command MUST contain a <nameWatch:renew> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:renew> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- A <nameWatch:curExpDate> element that contains the date on which the current validity period ends. This value ensures that repeated <renew> commands do not result in multiple unanticipated successful renewals.
- An OPTIONAL <nameWatch:period> element that contains the number of units to be added to the registration period of the nameWatch object.

Example <renew> 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:    <renew>
C:      <nameWatch:renew
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:          nameWatch-1.0.xsd">
C:        <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:        <nameWatch:curExpDate>2000-04-03</nameWatch:curExpDate>
C:        <nameWatch:period unit="y">1</nameWatch:period>
C:      </nameWatch:renew>
C:    </renew>
C:  </command>
C:</epp>
```

When a <renew> command has been processed successfully, the EPP <resData> element MUST contain a child <nameWatch:renData> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:renData> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- A <nameWatch:exDate> element that contains the date and time identifying the end of the NameWatch object's registration period.

Example <renew> 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:       <nameWatch:renData
S:         xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:         xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:           nameWatch-1.0.xsd">
S:           <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:           <nameWatch:exDate>2001-04-03T22:00:00.0Z</nameWatch:exDate>
S:         </nameWatch:renData>
S:       </resData>
S:       <trID>
S:         <clTRID>ABC-12345</clTRID>
S:         <svTRID>54322-XYZ</svTRID>
S:       </trID>
S:     </response>
S:</epp>

```

An EPP error response MUST be returned if a <renew> command cannot be processed for any reason.

### 3.2.4 EPP <transfer> Command

The EPP <transfer> command provides a transform operation that allows a client to manage requests to transfer the sponsorship of a nameWatch object. In addition to the standard EPP command elements, the <transfer> command MUST contain a <nameWatch:transfer> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:transfer> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- An OPTIONAL <nameWatch:period> element that contains the number of units to be added to the registration period of the nameWatch object at completion of the transfer process. This element MAY only be used when a transfer is requested, and it MUST be ignored if used otherwise.
- An OPTIONAL <nameWatch:authInfo> element that contains authorization information associated with the NameWatch object or authorization information associated with the NameWatch object's registrant. An OPTIONAL "roid" attribute MUST be used to identify the registrant object if and only if the given authInfo is associated with a registrant object, and not the NameWatch object itself. If this element is not provided or if the authorization information is invalid, server policy determines if the command is rejected or if response information will be returned to the client.

Every EPP <transfer> command MUST contain an "op" attribute that identifies the transfer operation to be performed. Valid values, definitions, and authorizations for all attribute values are defined in [EPP].

Example <transfer> request 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:    <transfer op="request">
C:      <nameWatch:transfer
C:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
C:          nameWatch-1.0.xsd">
C:        <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:        <nameWatch:period unit="y">1</nameWatch:period>
C:        <nameWatch:authInfo>
C:          <nameWatch:pw>2fooBAR</nameWatch:pw>
C:        </nameWatch:authInfo>
C:      </nameWatch:transfer>
C:    </transfer>
C:  <clTRID>ABC-12345</clTRID>
C: </command>
C:</epp>
```

When a <transfer> command has been processed successfully, the EPP <resData> element MUST contain a child <nameWatch:trnData> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:trnData> element contains the same child elements defined for a transfer query response.

Example <transfer> 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:      <nameWatch:trnData
S:        xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
S:        xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
S:          nameWatch-1.0.xsd">
S:        <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
S:        <nameWatch:trStatus>pending</nameWatch:trStatus>
S:        <nameWatch:reID>ClientX</nameWatch:reID>
S:        <nameWatch:reDate>2000-06-08T22:00:00.0Z</nameWatch:reDate>
S:        <nameWatch:acID>ClientY</nameWatch:acID>
S:        <nameWatch:acDate>2000-06-13T22:00:00.0Z</nameWatch:acDate>
S:        <nameWatch:exDate>2002-09-08T22:00:00.0Z</nameWatch:exDate>
S:      </nameWatch:trnData>
S:    </resData>
S:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54322-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>
```

An EPP error response MUST be returned if a <transfer> command cannot be processed for any reason.

### 3.2.5 EPP <update> Command

The EPP <update> command provides a transform operation that allows a client to modify the attributes of a nameWatch object. In addition to the standard EPP command elements, the <update> command MUST contain a <nameWatch:update> element that identifies the nameWatch namespace and the location of the nameWatch schema. The <nameWatch:update> element contains the following child elements:

- A <nameWatch:roid> element that contains the Repository Object Identifier assigned to the nameWatch object when the object was created.
- An OPTIONAL <nameWatch:add> element that contains attribute values to be added to the object.
- An OPTIONAL <nameWatch:rem> element that contains attribute values to be removed from the object.
- An OPTIONAL <nameWatch:chg> element that contains object attribute values to be changed.

At least one <nameWatch:add>, <nameWatch:rem>, or <nameWatch:chg> element MUST be provided. The <nameWatch:add> and <nameWatch:rem> elements contain the following child elements:

- Zero or more <nameWatch:status> elements that contain status values to be applied to or removed from the object. When specifying a value to be removed, only the attribute value is significant; element text is not required to match a value for removal.

A <nameWatch:chg> element contains the following child elements:

- A <nameWatch:registrant> element that contains the identifier for the human or organizational social information (contact) object to be associated with the NameWatch object as the object registrant. This object identifier MUST be known to the server before the contact object can be associated with the NameWatch object.
- A <nameWatch:rptTo> element that contains the e-mail address to receive the NameWatch reports. This element MUST contain a "freq" attribute whose value indicates the report frequency. The "freq" attribute value MUST be "daily", "weekly", or "monthly".
- A <nameWatch:authInfo> element that contains authorization information associated with the NameWatch object. This mapping includes a password-based authentication mechanism, but the schema allows new mechanisms to be defined in new schemas. A <nameWatch:null> element can be used within the <nameWatch:authInfo> element to remove authorization information.

Example <update> 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 epp-1.0.xsd">
C: <command>
C:   <update>
```

```

C:      <nameWatch:update
xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
C:      xsi:schemaLocation="http://www.nic.name/epp/nameWatch-1.0
nameWatch-1.0.xsd">
C:      <nameWatch:roid>EXAMPLE1-REP</nameWatch:roid>
C:      <nameWatch:add>
C:      <nameWatch:status s="clientHold" lang="en">Payment
overdue.</nameWatch:status>
C:      </nameWatch:add>
C:      <nameWatch:rem>
C:      <nameWatch:status s="clientUpdateProhibited"/>
C:      </nameWatch:rem>
C:      <nameWatch:chg>
C:      <nameWatch:registrant>sh8013</nameWatch:registrant>
C:      <nameWatch:rptTo
freq="daily">jdoe@example.com</nameWatch:rptTo>
C:      <nameWatch:authInfo type="pw">2BARfoo</nameWatch:authInfo>
C:      </nameWatch:chg>
C:      </nameWatch:update>
C:      </update>
C:      <clTRID>ABC-12345</clTRID>
C: </command>
C:</epp>

```

When an <update> command has been processed successfully, a server MUST respond with an EPP response with no <resData> element.

Example <update> 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:    <trID>
S:      <clTRID>ABC-12345</clTRID>
S:      <svTRID>54321-XYZ</svTRID>
S:    </trID>
S:  </response>
S:</epp>

```

An EPP error response MUST be returned if an <update> command cannot be processed for any reason.

## 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 BEIGN 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.nic.name/epp/nameWatch-1.0"
  xmlns:nameWatch="http://www.nic.name/epp/nameWatch-1.0"
  xmlns:epp="urn:ietf:params:xml:ns:epp-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"/>
  <import namespace="urn:ietf:params:xml:ns:epp-1.0"
    schemaLocation="epp-1.0.xsd"/>

  <annotation>
    <documentation>
      Extensible Provisioning Protocol v1.0
      .name name watch provisioning schema.
    </documentation>
  </annotation>

  <!--
  Child elements found in EPP commands.
  -->
  <element name="create" type="nameWatch:createType"/>
  <element name="delete" type="nameWatch:roidOnlyType"/>
  <element name="info" type="nameWatch:infoType"/>
  <element name="renew" type="nameWatch:renewType"/>
  <element name="transfer" type="nameWatch:transferType"/>
  <element name="update" type="nameWatch:updateType"/>

  <!--
  Child elements of the <create> command.
  -->
  <complexType name="createType">
    <sequence>
      <element name="name" type="nameWatch:nameType"/>
      <element name="registrant" type="eppcom:clIDType"/>
      <element name="rptTo" type="nameWatch:rptToType"/>
      <element name="period" type="nameWatch:periodType"
        minOccurs="0"/>
      <element name="authInfo" type="nameWatch:authInfoType"/>
    </sequence>
  </complexType>

  <simpleType name="nameType">
```



```

    <restriction base="token">
      <minLength value="1"/>
      <maxLength value="63"/>
    </restriction>
  </simpleType>

  <complexType name="rptToType">
    <simpleContent>
      <extension base="nameWatch:emailAddrType">
        <attribute name="freq" type="nameWatch:freqType"
          use="required"/>
      </extension>
    </simpleContent>
  </complexType>

  <!-- This isn't a complete pattern; additional out-of-parser
  processing is required to validate address format.
  -->
  <simpleType name="emailAddrType">
    <restriction base="token">
      <pattern value=".+@.+"/>
    </restriction>
  </simpleType>

  <simpleType name="freqType">
    <restriction base="token">
      <enumeration value="daily"/>
      <enumeration value="weekly"/>
      <enumeration value="monthly"/>
    </restriction>
  </simpleType>

  <complexType name="periodType">
    <simpleContent>
      <extension base="nameWatch:pLimitType">
        <attribute name="unit" type="nameWatch: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>

  <!--
  Child elements of the <info> command.
  -->
  <complexType name="authInfoType">
    <choice>

```

```

        <element name="pw" type="eppcom:pwAuthInfoType"/>
        <element name="ext" type="eppcom:extAuthInfoType"/>
    </choice>
</complexType>

<!--
Child element of commands that require a ROID.
-->
    <complexType name="roidOnlyType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
        </sequence>
    </complexType>

<!--
Child elements of the <info> command.
-->
    <complexType name="infoType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="authInfo" type="nameWatch:authInfoType"
                minOccurs="0"/>
        </sequence>
    </complexType>

<!--
Child elements of the <renew> command.
-->
    <complexType name="renewType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="curExpDate" type="date"/>
            <element name="period" type="nameWatch:periodType"
                minOccurs="0"/>
        </sequence>
    </complexType>

<!--
Child elements of the <transfer> command.
-->
    <complexType name="transferType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="period" type="nameWatch:periodType"
                minOccurs="0"/>
            <element name="authInfo" type="nameWatch:authInfoType"
                minOccurs="0"/>
        </sequence>
    </complexType>

<!--
Child elements of the <update> command.
-->
    <complexType name="updateType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="add" type="nameWatch:addRemType"
                minOccurs="0"/>

```

```

        <element name="rem" type="nameWatch:addRemType"
            minOccurs="0"/>
        <element name="chg" type="nameWatch:chgType"
            minOccurs="0"/>
    </sequence>
</complexType>

<!--
Data elements that can be added or removed.
-->
    <complexType name="addRemType">
        <sequence>
            <element name="status" type="nameWatch:statusType"
                minOccurs="0" maxOccurs="12"/>
        </sequence>
    </complexType>

<!--
Data elements that can be changed.
-->
    <complexType name="chgType">
        <sequence>
            <element name="registrant" type="eppcom:clIDType"
                minOccurs="0"/>
            <element name="rptTo" type="nameWatch:rptToType"
                minOccurs="0"/>
            <element name="authInfo" type="nameWatch:authInfoChgType"
                minOccurs="0"/>
        </sequence>
    </complexType>

<!--
Allow the authInfo value to be nullified by including an
empty element within the choice.
-->
    <complexType name="authInfoChgType">
        <choice>
            <element name="pw" type="eppcom:pwAuthInfoType"/>
            <element name="ext" type="eppcom:extAuthInfoType"/>
            <element name="null"/>
        </choice>
    </complexType>

<!--
Child response elements.
-->
    <element name="creData" type="nameWatch:creDataType"/>
    <element name="infData" type="nameWatch:infDataType"/>
    <element name="renData" type="nameWatch:renDataType"/>
    <element name="trnData" type="nameWatch:trnDataType"/>

<!--
<create> response elements.
-->
    <complexType name="creDataType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="name" type="nameWatch:nameType"/>
            <element name="crDate" type="dateTime"/>
            <element name="exDate" type="dateTime"/>

```

```

        minOccurs="0"/>
    </sequence>
</complexType>

<!--
<info> response elements.
-->
<complexType name="infDataType">
    <sequence>
        <element name="roid" type="eppcom:roidType"/>
        <element name="name" type="nameWatch:nameType"/>
        <element name="registrant" type="eppcom:clIDType"
            minOccurs="0"/>
        <element name="rptTo" type="nameWatch:rptToType"
            minOccurs="0"/>
        <element name="status" type="nameWatch:statusType"
            minOccurs="0" maxOccurs="14"/>
        <element name="clID" type="eppcom:clIDType"/>
        <element name="crID" type="eppcom:clIDType"
            minOccurs="0"/>
        <element name="crDate" type="dateTime"
            minOccurs="0"/>
        <element name="upID" type="eppcom:clIDType"
            minOccurs="0"/>
        <element name="upDate" type="dateTime"
            minOccurs="0"/>
        <element name="exDate" type="dateTime"
            minOccurs="0"/>
        <element name="trDate" type="dateTime"
            minOccurs="0"/>
        <element name="authInfo" type="nameWatch:authInfoType"
            minOccurs="0"/>
    </sequence>
</complexType>

<!--
Status is a combination of attributes and an optional human-readable
message that may be expressed in languages other than English.
A list of messages should be defined in the Programmer's Guide for
this mapping.
-->
<complexType name="statusType">
    <simpleContent>
        <extension base="normalizedString">
            <attribute name="s" type="nameWatch:statusValueType"
                use="required"/>
            <attribute name="lang" type="language"
                default="en"/>
        </extension>
    </simpleContent>
</complexType>

<simpleType name="statusValueType">
    <restriction base="token">
        <enumeration value="clientDeleteProhibited"/>
        <enumeration value="clientHold"/>
        <enumeration value="clientRenewProhibited"/>
        <enumeration value="clientTransferProhibited"/>
        <enumeration value="clientUpdateProhibited"/>
        <enumeration value="ok"/>
        <enumeration value="pendingDelete"/>
    </restriction>
</simpleType>

```

```

        <enumeration value="pendingTransfer"/>
        <enumeration value="serverDeleteProhibited"/>
        <enumeration value="serverHold"/>
        <enumeration value="serverRenewProhibited"/>
        <enumeration value="serverTransferProhibited"/>
        <enumeration value="serverUpdateProhibited"/>
    </restriction>
</simpleType>

<!--
<renew> response elements.
-->
    <complexType name="renDataType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="exDate" type="dateTime"/>
        </sequence>
    </complexType>

<!--
<transfer> response elements.
-->
    <complexType name="trnDataType">
        <sequence>
            <element name="roid" type="eppcom:roidType"/>
            <element name="trStatus" type="eppcom:trStatusType"/>
            <element name="reID" type="eppcom:clIDType"/>
            <element name="reDate" type="dateTime"/>
            <element name="acID" type="eppcom:clIDType"/>
            <element name="acDate" type="dateTime"/>
            <element name="exDate" type="dateTime"
                minOccurs="0"/>
        </sequence>
    </complexType>

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

```

## 5 References

[RFC3730] Hollenbeck, S., "Extensible Provisioning Protocol (EPP)", RFC 3730, March 2004.

[XML] Editor T. Bray et al.: "Extensible Markup Language (XML) 1.0 (Second Edition)", W3C Recommendation 6 October 2000.

[XMLS-1] Editors H. Thompson et al.: "XML Schema Part 1: Structures", W3C Recommendation 2 May 2001.

[XMLS-2] Editors P. Biron, A. Malhotra: "XML Schema Part 2: Datatypes", W3C Recommendation 2 May 2001.

[RFC2119] S. Bradner: "Key Words for Use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC2822] P. Resnick: "Internet Message Format", RFC 2822, April 2001.