



Manual for Registrars

Automated Interface
General Availability

1. What is an API?

An application programming interface (API) is the interface that a computer system, library or application provides in order to allow requests for service to be made of it by other computer programs, and/or to allow data to be exchanged between them. .xTLD Registry's API is provided by OpenRegistry SA, the leading Registry Service Provider.

The API provided by OpenRegistry is the Standard EPP API, and implements the following RFCs:

- ④ **RFC 5730** "Extensible Provisioning Protocol (EPP)"
- ④ **RFC 5731** "Extensible Provisioning Protocol (EPP) Domain Name Mapping"
- ④ **RFC 5732** "Extensible Provisioning Protocol (EPP) Host Mapping" (NOT IMPLEMENTED)
- ④ **RFC 5733** "Extensible Provisioning Protocol (EPP) Contact Mapping"
- ④ **RFC 5734** "Extensible Provisioning Protocol (EPP) Transport over TCP"
- ④ **RFC 3915** "Domain Registry Grace Period Mapping for the Extensible Provisioning Protocol (EPP)"
- ④ **RFC 5910** "Domain Name System (DNS) Security Extensions Mapping for the Extensible Provisioning Protocol (EPP)"

2. Why an API?

An API makes it possible for Registrars to register and manage .xTLD domains in the .xTLD Registry system directly from their own registrar system.

3. What are the advantages?

Thanks to the OpenRegistry's API, Registrars are able to let customers register .xTLD domains at their website instantly and real time at the OpenRegistry's systems via their own registrar system without any required manual action from them or the Registry. Registrars already accredited for other TLDs carried by OpenRegistry can use the same API.

4. Toolkits

Amongst many, the following publicly available toolkits are implementing the EPP API:

- ④ Net-EPP (Perl) (<http://search.cpan.org/~gbrown/Net-EPP-0.17/>)
- ④ PHP EPP library (PHP) (<https://www.centralnic.com/registry/labs/php>)

5. Certificate Authority (CA)

Currently the registry system uses a self-signed CA certificate. You can download it in case your EPP client requires you to verify the SSL certificate of the EPP server.

6. Configuration of EPP Connection

Before connecting to the EPP server, the registrar needs to set its **EPP password** (empty by default).

In order to increase the security of the EPP interface, the EPP server only accepts connections from **predefined IP addresses**.

The EPP password and the IP addresses to be whitelisted can be entered via the **registrar web interface**.

7. Examples

To help kickstart the implementation, common EPP examples show client request and subsequent server response:

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0. On Opening of Connection

The server sends an identification message on opening of the connection.

Response from server (no request sent by client):

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <greeting>
    <svID>EPP server</svID>
    <svDate>2012-05-04T12:32:39.262Z</svDate>
    <svcMenu>
      <version>1.0</version>
      <lang>en</lang>
      <objURI>urn:ietf:params:xml:ns:contact-1.0</objURI>
      <objURI>urn:ietf:params:xml:ns:domain-1.0</objURI>
      <svcExtension>
        <extURI>urn:ietf:params:xml:ns:secDNS-1.1</extURI>
        <extURI>urn:ietf:params:xml:ns:rgp-1.0</extURI>
      </svcExtension>
    </svcMenu>
    <dcp>
      <access>
        <all/>
      </access>
      <statement>
        <purpose>
          <admin/>
          <prov/>
        </purpose>
        <recipient>
          <ours/>
          <public/>
        </recipient>
        <retention>
          <stated/>
        </retention>
      </statement>
    </dcp>
  </greeting>
</epp>
```

1. Hello Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <hello/>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <greeting>
    <svID>EPP server</svID>
    <svDate>2012-05-04T12:32:39.262Z</svDate>
    <svcMenu>
      <version>1.0</version>
      <lang>en</lang>
      <objURI>urn:ietf:params:xml:ns:contact-1.0</objURI>
      <objURI>urn:ietf:params:xml:ns:domain-1.0</objURI>
      <svcExtension>
        <extURI>urn:ietf:params:xml:ns:secDNS-1.1</extURI>
        <extURI>urn:ietf:params:xml:ns:rgp-1.0</extURI>
      </svcExtension>
    </svcMenu>
    <dcP>
      <access>
        <all/>
      </access>
      <statement>
        <purpose>
          <admin/>
          <prov/>
        </purpose>
        <recipient>
          <ours/>
          <public/>
        </recipient>
        <retention>
          <stated/>
        </retention>
      </statement>
    </dcP>
  </greeting>
</epp>
```

2. Login Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <login>
      <clID>ote-u105</clID>
      <pw>*****</pw>
      <options>
        <version>1.0</version>
        <lang>en</lang>
      </options>
      <svcs>
        <objURI>urn:ietf:params:xml:ns:contact-1.0</objURI>
        <objURI>urn:ietf:params:xml:ns:domain-1.0</objURI>
        <svcExtension>
          <extURI>urn:ietf:params:xml:ns:secDNS-1.1</extURI>
          <extURI>urn:ietf:params:xml:ns:rgp-1.0</extURI>
        </svcExtension>
      </svcs>
    </login>
    <clTRID>1234567890</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>1234567890</clTRID>
      <svTRID>SANDBOX-xtld-3331</svTRID>
    </trID>
  </response>
</epp>
```

3. Create Contact Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <create>
      <contact:create xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>ote-sh8018</contact:id>
        <contact:postalInfo type="int">
          <contact:name>John Doe</contact:name>
          <contact:org>Example Inc.</contact:org>
          <contact:addr>
            <contact:street>123 Example Dr.</contact:street>
            <contact:street>Suite 100</contact:street>
            <contact:city>Dulles</contact:city>
            <contact:sp>VA</contact:sp>
            <contact:pc>20166-6503</contact:pc>
            <contact:cc>US</contact:cc>
          </contact:addr>
        </contact:postalInfo>
        <contact:voice x="1234">+1.7035555555</contact:voice>
        <contact:fax>+1.7035555556</contact:fax>
        <contact:email>jdoe@example.com</contact:email>
        <contact:authInfo>
          <contact:pw>2fooBAR</contact:pw>
        </contact:authInfo>
      </contact:create>
    </create>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <contact:creData xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>ote-sh8018</contact:id>
        <contact:crDate>2012-05-04T12:32:39.369Z</contact:crDate>
      </contact:creData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3333</svTRID>
    </trID>
  </response>
</epp>
```

Special attention for: NIC-HANDLE (contact:id): a unique identifier in the database that you can choose yourself. For your convenience stick to a particular prefix or suffix that matches the registrar. E.g. the contacts created for the registry itself all start with "xtldm-". Syntax requirements: only letters, digits and the dash ("-") are allowed. The handle needs to be not less than 3 and not more than 16 long.

4. Update Contact Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <contact:update xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
        <contact:chg>
          <contact:voice>+1.7034444444</contact:voice>
          <contact:fax/>
          <contact:authInfo>
            <contact:pw>2BARfoo</contact:pw>
          </contact:authInfo>
        </contact:chg>
      </contact:update>
    </update>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3335</svTRID>
    </trID>
  </response>
</epp>
```


5. Update Contact Status

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <contact:update xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
        <contact:add>
          <contact:status s="clientDeleteProhibited"/>
          <contact:status s="clientUpdateProhibited"/>
        </contact:add>
      </contact:update>
    </update>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3337</svTRID>
    </trID>
  </response>
</epp>
```

6. Update Contact Status Undo Command (Example 1)

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <contact:update xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
        <contact:rem>
          <contact:status s="clientUpdateProhibited"/>
        </contact:rem>
      </contact:update>
    </update>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3339</svTRID>
    </trID>
  </response>
</epp>
```

7. Update Contact Status Undo Command (Example 2)

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <contact:update xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
        <contact:rem>
          <contact:status s="clientTransferProhibited"/>
          <contact:status s="clientDeleteProhibited"/>
          <contact:status s="clientUpdateProhibited"/>
        </contact:rem>
      </contact:update>
    </update>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3341</svTRID>
    </trID>
  </response>
</epp>
```

8. Info Contact Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <info>
      <contact:info xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
      </contact:info>
    </info>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <contact:infData xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8017</contact:id>
        <contact:roid>c55-xtld</contact:roid>
        <contact:status s="ok"/>
        <contact:status s="linked"/>
        <contact:postalInfo type="int">
          <contact:name>John Doe</contact:name>
          <contact:org>Example Inc.</contact:org>
          <contact:addr>
            <contact:street>123 Example Dr.</contact:street>
            <contact:street>Suite 100</contact:street>
            <contact:city>Dulles</contact:city>
            <contact:sp>VA</contact:sp>
            <contact:pc>20166-6503</contact:pc>
            <contact:cc>US</contact:cc>
          </contact:addr>
        </contact:postalInfo>
        <contact:voice>+1.7034444444</contact:voice>
        <contact:email>jdoe@example.com</contact:email>
        <contact:clID>R0105</contact:clID>
        <contact:crID>R0105</contact:crID>
        <contact:crDate>2012-04-05T14:19:08.955Z</contact:crDate>
        <contact:upID>R0105</contact:upID>
        <contact:upDate>2012-05-04T12:32:40.183Z</contact:upDate>
        <contact:authInfo>
          <contact:pw>2BARfoo</contact:pw>
        </contact:authInfo>
      </contact:infData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3343</svTRID>
    </trID>
  </response>
</epp>
```

9. Check Contact Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <check>
      <contact:check xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>sh8013contact:id>
        <contact:id>sah8013contact:id>
        <contact:id>8013sahcontact:id>
      </contact:check>
    </check>
    <clTRID>ABC-12345clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfullymsg>
    </result>
    <resData>
      <contact:chkData xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:cd>
          <contact:id avail="true">sh8013contact:id>
        </contact:cd>
        <contact:cd>
          <contact:id avail="true">sah8013contact:id>
        </contact:cd>
        <contact:cd>
          <contact:id avail="true">8013sahcontact:id>
        </contact:cd>
      </contact:chkData>
    </resData>
    <trID>
      <clTRID>ABC-12345clTRID>
      <svTRID>SANDBOX-xtld-3344svTRID>
    </trID>
  </response>
</epp>
```

10. Greeting Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <hello/>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <greeting>
    <svID>EPP server</svID>
    <svDate>2012-05-04T16:32:59.480Z</svDate>
    <svcMenu>
      <version>1.0</version>
      <lang>en</lang>
      <objURI>urn:ietf:params:xml:ns:contact-1.0</objURI>
      <objURI>urn:ietf:params:xml:ns:domain-1.0</objURI>
      <svcExtension>
        <extURI>urn:ietf:params:xml:ns:secDNS-1.1</extURI>
        <extURI>urn:ietf:params:xml:ns:rgp-1.0</extURI>
      </svcExtension>
    </svcMenu>
    <dcp>
      <access>
        <all/>
      </access>
      <statement>
        <purpose>
          <admin/>
          <prov/>
        </purpose>
        <recipient>
          <ours/>
          <public/>
        </recipient>
        <retention>
          <stated/>
        </retention>
      </statement>
    </dcp>
  </greeting>
</epp>
```

11. Create Domain Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <create>
      <domain:create xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example9059.xtld</domain:name>
        <domain:period unit="y">1</domain:period>
        <domain:ns>
          <domain:hostAttr>
            <domain:hostName>ns1.example9059.xtld</domain:hostName>
            <domain:hostAddr ip="v4">192.0.2.2</domain:hostAddr>
            <domain:hostAddr ip="v6">1080:0:0:0:8:800:200C:417A</domain:hostAddr>
          </domain:hostAttr>
          <domain:hostAttr>
            <domain:hostName>ns2.other-name-no-glue.xtld</domain:hostName>
          </domain:hostAttr>
          <domain:hostAttr>
            <domain:hostName>ns3.example9059.xtld</domain:hostName>
            <domain:hostAddr ip="v4">192.0.3.2</domain:hostAddr>
          </domain:hostAttr>
        </domain:ns>
        <domain:registrant>sh8012</domain:registrant>
        <domain:contact type="admin">sh8012</domain:contact>
        <domain:contact type="tech">sh8015</domain:contact>
        <domain:authInfo>
          <domain:pw>2fooBAR</domain:pw>
        </domain:authInfo>
      </domain:create>
    </create>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:creData xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example905922.xtld</domain:name>
        <domain:crDate>2012-05-04T12:32:40.518Z</domain:crDate>
        <domain:exDate>2013-05-04T12:32:40.518Z</domain:exDate>
      </domain:creData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3346</svTRID>
    </trID>
  </response>
</epp>
```

12. Create Domain Without Delegation Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <create>
      <domain:create xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example125922.tld</domain:name>
        <domain:period unit="y">1</domain:period>
        <domain:registrant>sh8017</domain:registrant>
        <domain:contact type="admin">sh8017</domain:contact>
        <domain:contact type="tech">sh8017</domain:contact>
        <domain:authInfo>
          <domain:pw>2fooBAR</domain:pw>
        </domain:authInfo>
      </domain:create>
    </create>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:creData xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example125922.tld</domain:name>
        <domain:crDate>2012-05-04T12:32:40.844Z</domain:crDate>
        <domain:exDate>2013-05-04T12:32:40.844Z</domain:exDate>
      </domain:creData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3348</svTRID>
    </trID>
  </response>
</epp>
```


13. Create Domain With DNSSEC Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <create>
      <domain:create xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example3005922.xtld</domain:name>
        <domain:period unit="y">1</domain:period>
        <domain:registrant>sh8017</domain:registrant>
        <domain:contact type="admin">sh8017</domain:contact>
        <domain:contact type="tech">sh8017</domain:contact>
        <domain:authInfo>
          <domain:pw>2fooBAR</domain:pw>
        </domain:authInfo>
      </domain:create>
    </create>
    <extension>
      <secDNS:create xmlns:secDNS="urn:ietf:params:xml:ns:secDNS-1.1">
        <secDNS:keyData>
          <secDNS:flags>257</secDNS:flags>
          <secDNS:protocol>3</secDNS:protocol>
          <secDNS:alg>10</secDNS:alg>
          <secDNS:pubKey>AwEAAbztKJKoaw6bLlgfhMpBfEiFL0PouDcqvYlmVTqXrlBRlcn
YG766Nri01Z4vd1S6z/f0DUaiPDe+m1RV2HLs3GnMOXxlUNpBwoyXTLduKkH08Y zKdvQE qB2Zl/
FQ4N9W8VzaWkGx3+CY5dJ+jOEDWwe0X5gChYaa5w/WjZ KsT+OC+F</secDNS:pubKey>
        </secDNS:keyData>
      </secDNS:create>
    </extension>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:creData xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example3005922.xtld</domain:name>
        <domain:crDate>2012-05-04T12:32:41.178Z</domain:crDate>
        <domain:exDate>2013-05-04T12:32:41.178Z</domain:exDate>
      </domain:creData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3350</svTRID>
    </trID>
  </response>
</epp>
```

14. Info Domain Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <info>
      <domain:info xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example905922.xtld</domain:name>
      </domain:info>
    </info>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <resData>
      <domain:infData xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example905922.xtld</domain:name>
        <domain:roid>d45-xtld</domain:roid>
        <domain:status s="inactive"/>
        <domain:registrant>ote-sh8017</domain:registrant>
        <domain:contact type="admin">ote-sh8017</domain:contact>
        <domain:contact type="tech">ote-sh8017</domain:contact>
        <domain:clID>R0105</domain:clID>
        <domain:crID>R0105</domain:crID>
        <domain:crDate>2012-05-04T12:32:40.518Z</domain:crDate>
        <domain:exDate>2013-05-04T12:32:40.518Z</domain:exDate>
        <domain:authInfo>
          <domain:pw>2fooBAR</domain:pw>
        </domain:authInfo>
      </domain:infData>
    </resData>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3352</svTRID>
    </trID>
  </response>
</epp>
```

15. Update Domain Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <domain:update xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example905922.xtld</domain:name>
        <domain:add>
        </domain:add>
        <domain:rem>
        </domain:rem>
        <domain:chg>
          <domain:authInfo>
            <domain:pw>3BarFOO</domain:pw>
          </domain:authInfo>
        </domain:chg>
      </domain:update>
    </update>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3354</svTRID>
    </trID>
  </response>
</epp>
```

16. Update Domain With DNSSEC Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <update>
      <domain:update xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example3005922.xtld</domain:name>
      </domain:update>
    </update>
    <extension>
      <secDNS:update
        xmlns:secDNS="urn:ietf:params:xml:ns:secDNS-1.1">
        <secDNS:rem>
          <secDNS:keyData>
            <secDNS:flags>257</secDNS:flags>
            <secDNS:protocol>3</secDNS:protocol>
            <secDNS:alg>10</secDNS:alg>
            <secDNS:pubKey>AwEAAbztKJKoaw6bLlgfhMpBfEiFL0PouDcqvYlmVTqXrlBRlcn
YG766 ri0lZ4vd1S6z/f0DUaiPDe+m1RV2HLs3GnMOXxlUNpBwoyXTLdUKKH08Y zKdvQE qB2Z1/
FQ4N9W8VzaWKgX3+CY5dJ+jOEDWWe0X5gChYaa5w/WjZ KsT+OC+F</secDNS:pubKey>
          </secDNS:keyData>
        </secDNS:rem>
        <secDNS:add>
          <secDNS:keyData>
            <secDNS:flags>256</secDNS:flags>
            <secDNS:protocol>3</secDNS:protocol>
            <secDNS:alg>10</secDNS:alg>
            <secDNS:pubKey>AwEAAbztKJKoaw6bLlgfhMpBfEiFL0PouDcqvYlmVTqXrlBRlcn
YG766Nri0lZ4vd1S6z/f0DUaiPDe+m1RV2HLs3GnMOXxlUNpBwoyXTLdUKKH08Y zKdvQE qB2Z1/
FQ4N9W8VzaWKgX3+CY5dJ+jOEDWWe0X5gChYaa5w/WjZ KsT+OC+F</secDNS:pubKey>
          </secDNS:keyData>
        </secDNS:add>
      </secDNS:update>
    </extension>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3356</svTRID>
    </trID>
  </response>
</epp>
```

17. Delete Domain Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <delete>
      <domain:delete xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
        <domain:name>example905922.xtld</domain:name>
      </domain:delete>
    </delete>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1001">
      <msg>Command completed successfully; action pending</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3358</svTRID>
    </trID>
  </response>
</epp>
```

18. Delete Contact Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <delete>
      <contact:delete xmlns:contact="urn:ietf:params:xml:ns:contact-1.0">
        <contact:id>ote-sh8018</contact:id>
      </contact:delete>
    </delete>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1000">
      <msg>Command completed successfully</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3360</svTRID>
    </trID>
  </response>
</epp>
```

19. Logout Command

Request sent by client:

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <command>
    <logout/>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

Response returned from server:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
  <response>
    <result code="1500">
      <msg>Command completed successfully; ending session</msg>
    </result>
    <trID>
      <clTRID>ABC-12345</clTRID>
      <svTRID>SANDBOX-xtld-3361</svTRID>
    </trID>
  </response>
</epp>
```

