

## NEUSTAR REGISTRAR REFERENCE GUIDE



### SUNRISE SUPPLEMENT: FIRST COME, FIRST SERVED AWARD METHOD

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# 1 Introduction and Audience

This supplement to the *Registry Registrar Reference Guide* is provided to aid registrars in interfacing with the Registry Service Provider during the Sunrise phase. A more general reference to Registry Operations for registrars may be found in the *Registrar Reference Guide*.

The Sunrise phase is designed to provide legitimate trademark holders with the opportunity to apply for 2<sup>nd</sup> level domains within the Registry space.

This document explains how to use Neustar's Shared Registry System (SRS) Registrars Toolkit to interface with new generic TLD domain registrations during a First Come, First Served (FCFS) Sunrise phase. In a FCFS Sunrise, multiple applications are not accepted for a domain. The first registration to be created is accepted, and all subsequent attempts to create the domain name are rejected. This document supplements the Developer's Guide for new generic TLDs.

## 1.1 Intended Audience & Reading Suggestions

This document is targeted toward those desiring an understanding of the EPP requirements for a FCFS Sunrise, especially those involved in the design, development, integration, and testing. A more general reference to Registry Operations can be found in the Developers Guide for new generic TLDs.

## 1.2 Reference Documents

- The Launch Phase Mapping for the Extensible Provisioning Protocol (EPP) describes the EPP extension mapping for the provisioning and management of domain name registrations and applications during the launch of a domain name registry.  
<http://www.ietf.org/id/draft-tan-epp-launchphase-12.txt>
- The Mark and Signed Mark Objects Mapping document describes the format of the mark and digitally signed mark required for domain creates in Sunrise.  
<http://tools.ietf.org/html/draft-lozano-tmch-func-spec-08>

## 1.3 First Come, First Served Award Method

The Registry Operator has chosen to operate a Sunrise Period using the First Come, First Served (FCFS) Award Method. During the Sunrise phase, the first domain name that meets the Trademark Clearinghouse (TMCH) criteria will be awarded, provided the domain name is not already allocated and/or not on the reserved list for the Registry. Multiple applications for the same domain name will not be accepted in a FCFS Sunrise phase. Subsequent requests for the same name will be rejected. In the FCFS model, the request for a domain name is called a Launch Registration instead of an Application. The term Application refers to a Sunrise where the award method accepts multiple requests for the same domain and the winners are determined by a defined process, such as an auction.

## 1.4 The Trademark Clearinghouse

The Trademark Clearinghouse (TMCH) is a global database and repository for trademark data supporting rights protection mechanisms offered by new gTLD registries. The TMCH will be operated by Deloitte and IBM via an agreement with ICANN. By performing trademark validation services, it replaces the need for trademark holders to register their marks in many different databases as new gTLDs are launched. The clearinghouse:

- Is a centralized database;
- Verifies trademark information from rights holders all over the world;
- Provides this information to registries and registrars during TLD startup phases

## 1.5 Signed Mark Data

Signed Mark Data (SMD) is an electronic document or file that contains a digital signature from the TMCH. A trademark holder with an SMD can be assured their trademark has been verified by the TMCH.

## 1.6 Participants and Roles

The table below provides descriptions of the participants and roles during the Registry Sunrise phase.

**Table 1 Participants and Roles**

Participant	Role(s)
<b>Applicants / Registrants</b>	<ul style="list-style-type: none"> <li>• Submit trademarks to the TMCH for validation</li> <li>• Submit applications to registrars</li> </ul>
<b>Registrars</b>	<ul style="list-style-type: none"> <li>• Collect Registrations from applicants and resellers</li> <li>• Submit them to the Registry Service Provider via EPP</li> <li>• Communicate with applicants</li> <li>• Bill applicants</li> </ul>
<b>Registry Operator</b>	<ul style="list-style-type: none"> <li>• Defines business rules for the Sunrise phase based on ICANN requirements</li> </ul>
<b>Registry Service Provider (RSP)</b>	<ul style="list-style-type: none"> <li>• Acts on behalf of the Registry during Sunrise to implement business rules</li> <li>• Accepts Registration Requests via EPP</li> <li>• Validates Registration Requests (SMD and domain name)</li> <li>• Maintains the authoritative Sunrise database for Valid Registrations Requests in a FCFS manner</li> <li>• Invoices Registrars</li> <li>• Injects winning Registrations into the production SRS</li> <li>• Provides Registrar reports and Poll Messages</li> </ul>
<b>Trademark Clearinghouse (TMCH)</b>	<ul style="list-style-type: none"> <li>• Performs trademark validation services</li> <li>• Issues Signed Mark Data (SMD)</li> <li>• Manages the appeals process</li> </ul>

## 1.7 Sunrise Process Description

The applicant for the domain name may be an individual, reseller, or some other agent. All Registration requests that pass the Signed Mark Data (SMD) criteria as established by ICANN and are the first to do so will incur a Sunrise Fee charged to the submitting Registrar. In addition, all winning Registrations will incur a Registration Fee when the domain is injected (registered) in the production SRS. An Injection Fee may also be assessed at the time of injection. Detailed billing information is provided below.

The stages of the Sunrise phase are as follows:

1. Trademark Validation by the TMCH: Trademark owners submit trademark information to the TMCH and receive SMD.
2. The applicant submits a registration request via the Registrar.
3. The SRS checks to see if the name is either on the reserved list, or previously awarded. If either condition is met, the name is unavailable and the request is rejected with an error.4. If the name is available, the Sunrise system validates the SMD using the TMCH public key. If the SMD is valid, the Sunrise system verifies that the name being applied for is a valid name variant for the trademark. The domain name being requested must exist in the domain list included in the SMD.
4. If the Request is valid according to the rules above, then the domain name is identified for injection into the Generally Available (GA) Registry system; the Registrar will be billed for the Sunrise fee.
5. On a periodic basis, the valid Sunrise Requests are injected into the GA system. The registrar will be billed for the number of years designated by the Registry Provider for the registration period, as well as an injection fee. Prior to the start of the next phase (whether that phase is Landrush, GA or an additional Sunrise or specialty phase), all Sunrise Requests should be injected. If any domain names are in a pending state for any reason, the name will be placed on the reserved list in the GA system.
6. Once an application has been injected into the GA system, the RSP will issue the following notifications:
  - a. To the Registrar via standard reports on the SCP server. See details below;
  - b. To the TMCH via the agreed upon practices established in the ICANN specifications;
  - c. On the Sunrise Poll Queue via a Poll Message indicating that the domain was allocated.

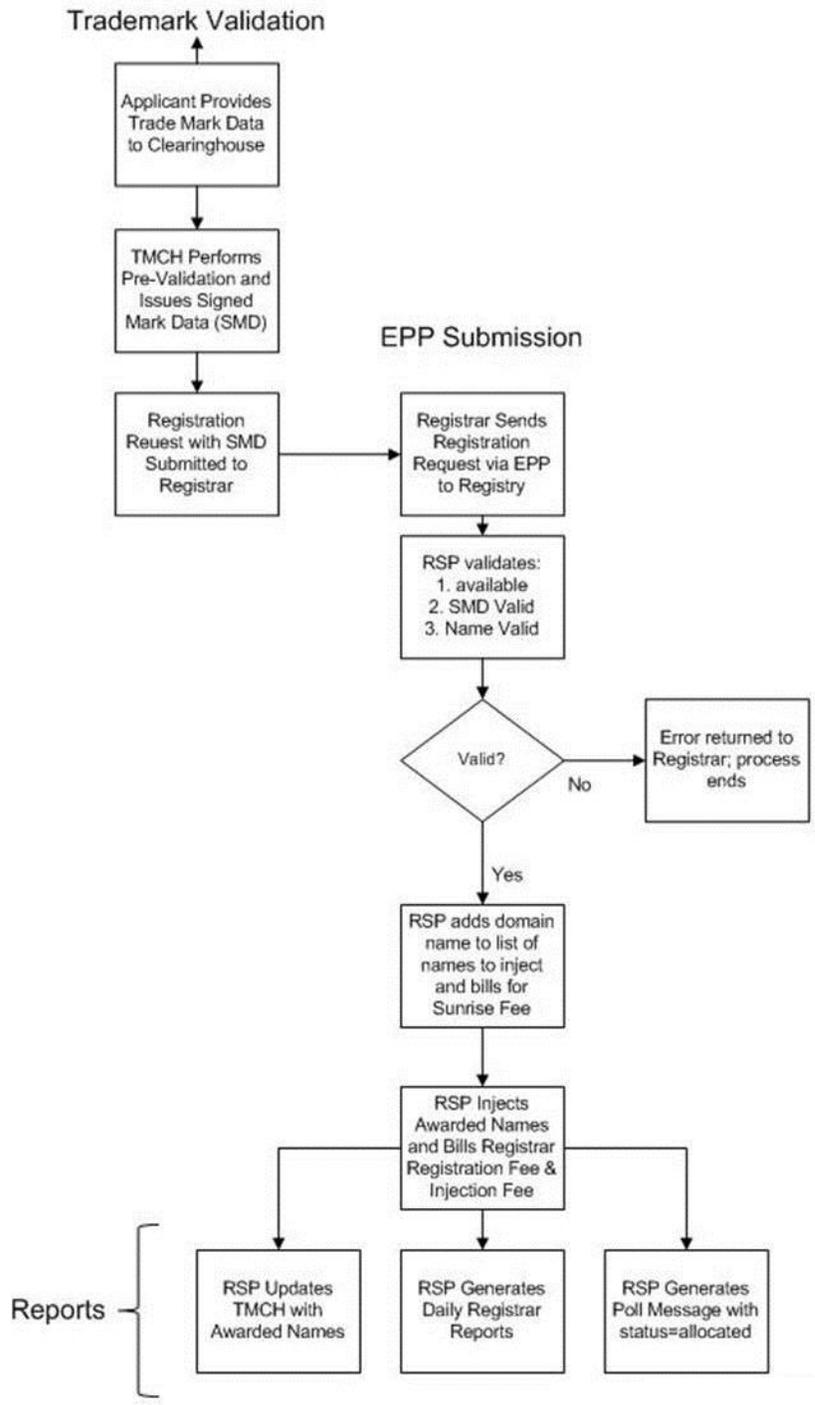
7. This injection process will run until all Registrations have been injected into the GA system.
8. Once injected into the GA System, the domain names will be live in the WHOIS database for the Registry. Registrars will then need to provide nameservers to the RSP so that the domain may be live in the DNS system. The registration date of the domain will correspond to the injection date.



Sunrise Registrations are considered non-refundable and Registrars will not be permitted to delete registrations. Domain names created during the Sunrise phase may not be deleted during the Sunrise phase. If there is a need to delete a domain name that was created during the Sunrise Phase, then that name may be deleted once General Availability opens.

# 1.8 Sunrise Process Flow

Figure 1 Sunrise Process Flow



## 2 Sunrise Billing

### 2.1 Billing

For each Sunrise phase, there will be three distinct billing events to the Registrar: *Sunrise Fee*, *Injection Fee*, and *Registration Fee*.

- The *Sunrise Fee* will be billed when the request for domain name is received by the SRS and is valid. The *Sunrise Fee* amount will be decided by the Registry Provider.
- The *Injection Fee* is billed when the application is injected from the Sunrise Environment into the Production environment and is decided by the Registry Operator.
- The *Registration Fee* amount will be in the form of a new registration of a term also decided by the Registry Provider.

## 3 Reporting

### 3.1.1 Registrar Sunrise Reports

Several reports are provided to the Registrar so that a basic understanding of performance can be ascertained.

Some reports provide Launch Status, which is an indicator of the state of domains as of the time the reports were run.

**Table 1 Sunrise Reporting Launch Phase Status**

<b>Launch Phase Status</b>	<b>Description</b>
<b>Validated</b>	The domain name was successfully validated in the TMCH and has a valid SMD associated with it.
<b>Allocated</b>	The domain name has been successfully allocated/injected into the GA system.

The following reports will be generated on a daily basis and deposited in each Registrar's Secure Copy (SCP) account.

### **3.1.2 Daily Activity Report**

The Daily Activity Report lists, for each Registrar, activity over the previous day. It includes the following information:

- Domain Name
- Registration timestamp
- Launch Phase Status
- An example of the Daily Activity Report is depicted below.

### **3.1.3 Daily Phase Summary Report**

The Daily Phase Summary Report lists the number of registrations created during the phase. The report also has a tally of Registrations in each status, whether it is validated, allocated, or another status.

An example of the Daily Phase Summary Report is depicted below.

### **3.1.4 Daily Phase Activity Report**

The Daily Phase Activity Report provides information on the cumulative, running inventory of activity during the entire phase. It includes the following information:

Domain Name

Registration timestamp

Launch Phase Status

An example of the Daily Phase Activity Report is depicted below.

## 4 Sunrise Business Rules

The Registry Provider sets the Business Rules for how the TLD behaves, what transactions are possible and when those transactions are executed.

### 4.1 Business Rules for Registrars

During the Sunrise phase, a limited set of business rules are permitted and only these transactions are permitted to Registrars. During the Contact Create periods before Sunrise opens:

During the Contact Create periods before Sunrise opens, registrars may perform the following:

- Contact Create
- Contact Check
- Contact Info

Registrars may perform the following contact operations during open Sunrise Periods:

- Contact Create
- Contact Check
- Contact Info

Registrars may perform the following domain operations during open Sunrise Periods:

- Domain Create
- Domain Check
- Domain Info

Quiet periods are the periods after Sunrise closes and before the next phase opens.

Registrars may perform the following contact operations during quiet periods:

- Contact Check
- Contact Info

Registrars may perform the following domain operations during quiet periods:

- Domain Check
- Domain Info

*Sunrise Supplement First Come, First Served Award Method*

The table below summarizes the commands available during Sunrise transitions.

	Contact Create Period – Before Sunrise Opens	Sunrise Open	Sunrise Close (between phases)
Contact Create	X	X	
Contact Check	X	X	X
Contact Info	X	X	X
Domain Create		X	
Domain Check		X	X
Domain Info		X	X

Note: As Sunrise transitions from contact create period, to open, to quiet periods, registrars may experience momentary outages.

## 4.2 Sunrise Statuses

During normal GA, registry operations domain names may be put into various EPP statuses after operations are performed. In Sunrise, names are being created, so the applicable EPP statuses are pendingCreate and inactive:

pendingCreate: This status indicates that a request to create a domain name has been received and is being processed.

Inactive: This status indicates *that* delegation information (DNS or nameservers) has not been associated with the domain.

In addition to EPP status, during Sunrise there are also Launch Phase Statuses. Table 3 below depicts the Launch Phase Status along with the EPP status and description.

**Table 2 Launch Phase Status and Corresponding EPP Status During Sunrise**

Launch Phase Status	EPP Status	Description
<b>Validated</b>	pendingCreate	The domain name was successfully validated in the TMCH and has a valid SMD associated with it.
<b>Allocated</b>	inactive	The domain name has been successfully allocated/injected into the GA system.

## **5 Toolkit API Classes**

This section describes the classes provided with the Toolkit API that specifically address Sunrise functionality.

### **5.1 EppCommandCreateLaunchRegistration**

This class is the required extension for a FCFS Registration object and specifies the phase, registration type and trademark data required for Sunrise phases. For FCFS Sunrise, the type is “registration”.

### **5.2 EppEncodedSignedMarkData**

This class holds the Base 64 encoded version of the signed mark data. The registrant may use object received from the TMCH instead of the signed mark data.

### **5.3 EppSignedMarkData**

This is the unencoded version of the trademark data received from the TMCH. Either the encoded or unencoded mark data may be used when creating a Sunrise registration.

### **5.4 EppCommandCheckLaunchRegistration**

This class is the required command extension to do an availability check on a domain while FCFS Sunrise is operational.

### **5.5 EppCommandInfoLaunchRegistration**

This class is the required command extension to perform a query, or info, on an FCFS Registration object. Optionally, the mark data can be returned with the response if specified.

### **5.6 EppStatus**

This class contains the status information of an EPP Object.

### **5.7 EppMarkMark, EppTrademarkData, EppCourtData, EppTreatyorStatuteData**

These classes contain the varieties of trademark information that can be associated to a Sunrise application. This information is supplied in the signed mark data (or encoded signed mark data) by the TMCH.

## 5.8 EppLaunchPhase

The launch phase must be set for Sunrise commands to let the server know the target phase of the command.

## 5.9 EppResponseDataCreateLaunchRegistration

This class contains the launch extension for the Create command's response.

## 5.10 EppResponseDataInfoLaunchRegistration

This class contains the launch extension for an Info command response including the mark data and status.

## 6 Operations

This section details domain operations for FCFS Sunrise where they differ from normal general availability operations.

In the Registry OT&E environment for a FCFS Sunrise, the tld “FCFS” may be used in EPP commands, as well as a valid new gTLD that is scheduled to be launched, such as “UNO”.

### 6.1 Object Management Operations

The Registry allows the user to perform the following operations on domain, host, and contact objects supported in Sunrise FCFS.

**Table 3 Object Management Operations**

Operations	Domain	Contact	Host
Create	✓	✓	
Modify			
Query	✓	✓	
Delete			
Check	✓	✓	
Renew			
Transfer			

The following three sections describe the Domain Operations in detail. Contact Operations do not differ from normal general availability so examples are not provided.

## 6.2 Domain Management Operations

### 6.2.1 Create Domain Name

Create Domain Name [EppCommandCreate, EppCommandCreateLaunchRegistration, EppResponseDataCreateLaunchRegistration]

This operation enters the Domain Name into the system. By registry policy, only one (1) Signed Mark or Encoded Signed Mark will be accepted by the registry on a Create Domain Command.

#### 6.2.1.1 Required Attributes

- Domain Name
- Admin Contact ID
- Technical Contact ID
- Billing Contact ID
- Registrant ID
- Launch Phase
- Signed Mark or Encoded Signed Mark (1)
- Type=registration

## 6.2.1.2 Usage

```

EppDomain domain = new EppDomain("example1.FCFS");
// each contact is set by giving the contact id of an existing
// contact object as well as the contact type for this domain,
// more than one contact of any given type is possible.
domain.addContact("JL34" , EppDomain.CONTACT_TYPE_ADMIN);
domain.addContact("BN156", EppDomain.CONTACT_TYPE_TECH);
domain.addContact("JL34" , EppDomain.CONTACT_TYPE_BILLING);
domain.addContact("LS2" , EppDomain.CONTACT_TYPE_BILLING);
// set the registration period to one year
domain.setPeriod(new EppPeriod(1, EppPeriod.UNIT_YEAR));
// set the registrant of the domain to an existing contact
domain.setRegistrant("TK450");
// set authorization information for the domain that will be used
// for domain transfer request operations.
domain.setAuthInfo(new EppAuthInfo(EppAuthInfo.TYPE_PW, "SecretPW"));
// generate an actual create domain command using the domain
EppCommandCreate cmd = new EppCommandCreate(domain);

// set transaction id, if needed
cmd.setClientTransactionId("MY-DOMAIN-CREATE-TRANSACTION-ID");

// create the launch extension
// set the registration type, phase, and signed mark data
EppCommandCreateLaunchRegistration launchExt =
    new EppCommandCreateLaunchRegistration();
launchExt.type("registration");
EppLaunchPhase _phase = new EppLaunchPhase();
_phase.phase("sunrise");
launchExt.phase(_phase);
EppEncodedSignedMarkData _mark = new EppEncodedSignedMarkData();
_mark.rawXml(_encSMD);
launchExt.encodedSignedMark(_mark);

// add the extension to the command
cmd.addExtension(launchExt);

// send the command to the server and receive a response object
EppResponse res = channel.send(cmd);
if( res == null || ! res.success() )
{
    // error processing ...
}
// get the response data for the domain
EppResponseDataCreateDomain res_data;
res_data = (EppResponseDataCreateDomain) res.getResponseData();
if (res_data == null)
{
    // this should not happen, but need error processing any way
}
System.out.println("Domain Name    : " + res_data.getName());
System.out.println("Creation Date  : " + res_data.getDateCreated().getTime());
System.out.println("Expiration Date: " + res_data.getDateExpired().getTime());

```

### 6.2.1.3 XML Example

```
<?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>testandvalidate.NEUSTAR</domain:name>
        <domain:period unit="y">2</domain:period>
        <domain:registrant>ABHICONTACT07_10</domain:registrant>
        <domain:contact type="admin">ABHICONTACT07_10</domain:contact>
        <domain:contact type="tech">ABHICONTACT07_10</domain:contact>
        <domain:contact type="billing">ABHICONTACT07_10</domain:contact>
        <domain:authInfo>
          <domain:pw>1234</domain:pw>
        </domain:authInfo>
      </domain:create>
    </create>
    <extension>
      <idn:data xmlns:idn="urn:ietf:params:xml:ns:idn-1.0">
        <idn:table>en</idn:table>
      </idn:data>
      <launch:create xmlns:launch="urn:ietf:params:xml:ns:launch-1.0" type="registration">
        <launch:phase>sunrise</launch:phase>
      </launch:create>
      <launch:phase>sunrise</launch:phase>
      <smd:encodedSignedMark xmlns:smd="urn:ietf:params:xml:ns:signedMark-1.0">
        PD94bWwgdmVyc2lvcj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4KPHNtZDpzaWduZWRNYXJrIHht
        bG5zOnNtZD0idXJuOmlldGY6cGFyYW1zOnhtbDpuczpzaWduZWRNYXJrLTFuMCJgaWQ9Il84M2Jl
        ZDk5ZC0yMDE2LTQxNTItYTY3My05ZGQzZDAxNzh1NjMiPgogIDxzbWQ6aWQ+MDAwMDAwMTcyMTM3...
        MD1EYXRhPjwvZHM6S2V5SW5mbz48L2RzOlNpZ25hdHVyZT48L3NtZDpzaWduZWRNYXJrPg==
      </smd:encodedSignedMark>
    </extension>
    <clTRID>ABC-12345</clTRID>
  </command>
</epp>
```

## **6.2.2 Check Domain Name**

[EppCommandCheck, EppCommandCheckLaunchRegistration]

The check command is used to determine whether or not a domain is available to be provisioned. For FCFS Sunrise, the command checks both Sunrise and GA environments if applicable.

## **6.2.3 Required Attributes**

- Domain Name
- Extension to check command
  - Check type – avail
  - Phase - Sunrise

### **6.2.3.1 Data Returned**

Returns true if the Domain Name is available and false if unavailable.

### 6.2.3.2 Usage

```
EppCommandCheckDomain cmd = new EppCommandCheckDomain();

EppCommandCheckLaunchRegistration launchExt =new
    EppCommandCheckLaunchRegistration();

// Create the extension to set the type and phase
// Set the phase and type
launchExt.type("avail");
EppLaunchPhase _phase = new EppLaunchPhase();
_phase.phase("sunrise");
launchExt.phase(_phase);
cmd.addExtension(launchExt);

// add the domains to be checked
cmd.add("example1.FCFS");
cmd.add("example2.FCFS");
// send the command to the server and receive a response object
EppResponse res = channel.send(cmd);
if (res == null || ! res.success())
{
    // error processing ...
}
// get response data
EppResponseDataCheck data;
data = (EppResponseDataCheck) res.getResponseData();
if( data.isAvailable("example1.FCFS") )
{
    // example1.FCFS is available
}
else
{
    // example1.FCFS is not available
    if( data.getReason("example1.FCFS") != null )
    {
        // display reason text, if any
    }
}
```

## **6.2.4 Info Domain Name**

[EppCommandInfo,  
EppCommandInfoLaunchRegistration,EppResponseDataInfoLaunchRegistration]

The info command returns domain attributes and optionally, mark attributes.

### 6.2.4.1 Required Attributes

- Domain Name

### 6.2.4.2 Optional Attributes

- Mark Data

### 6.2.4.3 Usage

```
EppCommandInfoDomain cmd =
    new EppCommandInfoDomain("example1.FCFS");

// create the launch extension
EppCommandInfoLaunchRegistration launchExt = new
EppCommandInfoLaunchRegistration();
// set up transaction id, if needed
cmd.setClientTransactionId("MY-DOMAIN-QUERY-TRANSACTION-ID");

// Set the phase indicate whether to return mark data

launchExt.includeMark(true);
EppLaunchPhase _phase = new EppLaunchPhase();
_phase.phase("sunrise");
launchExt.phase(_phase);
EppResponse res = channel.send(cmd);

EppExtension extension = null;
String status = null;
EppMarkMark mark = null;
EppResponseDataInfoLaunchRegistration launchResponseExt = null;

EppResponse res = channel.send(cmd);

Vector extensions = (Vector)res.getExtension();

for( int i = 0; i < extensions.size(); i++ )
{
    extension = (EppExtension) extensions.get(i);
    if (extension instanceof EppResponseDataCreateLaunchRegistration)
    {
        launchResponseExt =
            (EppResponseDataInfoLaunchRegistration) extension;
        status = launchResponseExt.status();
        mark = launchResponseExt.mark();
    }
}
```

## 6.3 Poll Messages

When a Sunrise FCFS Registration is transitioned from validated to allocated, a poll message is put on the poll queue to signal the change of status. The message contains an extension indicating the status. The mechanism to retrieve the poll message from the queue is the same as steady state GA. Please see the Poll Operation section of the Developers Guide for an example of code that retrieves messages from the queue. The following XML is an example of a poll message.

### 6.3.1 Example

The following is an example poll message response for an "allocated" Launch Registration:

```
<?xml version="1.0" encoding="UTF-8"?>
<epp xmlns="urn:ietf:params:xml:ns:epp-1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0 epp-1.0.xsd">
  <response>
    <result code="1301">
      <msg lang="en-US">Command completed successfully; ack to dequeue</msg>
      <value>
        <text>SRS Major Code: 2000</text>
      </value>
      <value>
        <text>SRS Minor Code: 20024</text>
      </value>
      <value>
        <text>--QUEUE SUCCESSFULLY POLLED</text>
      </value>
      <value>
        <text>Registration successfully allocated</text>
      </value>
    </result>
    <msgQ id="3369" count="314">
      <qDate>2013-10-23T08:49:34.0Z</qDate>
      <msg>Registration successfully allocated</msg>
    </msgQ>
    <resData>
      <domain:panData xmlns="urn:ietf:params:xml:ns:domain-1.0"
xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
xsi:schemaLocation="urn:ietf:params:xml:ns:domain-1.0 domain-1.0.xsd">
        <domain:name paResult="1">MULTIPHASE0101A.NEUSTAR</domain:name>
        <domain:paTRID>
          <epp:clTRID xmlns:epp="urn:ietf:params:xml:ns:epp-1.0"
xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0 epp-1.0.xsd">strecdvvap15-52676B16-26237-
1002</epp:clTRID>
          <epp:svTRID xmlns:epp="urn:ietf:params:xml:ns:epp-1.0"
xsi:schemaLocation="urn:ietf:params:xml:ns:epp-1.0 epp-1.0.xsd">20131023062326304-1091131201-
2</epp:svTRID>
        </domain:paTRID>
        <domain:paDate>2013-10-23T08:49:34.0Z</domain:paDate>
      </domain:panData>
    </resData>
    <extension>
      <launch:infData xmlns:launch="urn:ietf:params:xml:ns:launch-1.0"
xsi:schemaLocation="urn:ietf:params:xml:ns:launch-1.0 launch-1.0.xsd">
        <launch:phase>sunrise</launch:phase>
        <launch:status s="allocated"/>
      </launch:infData>
    </extension>
    <trID>
      <clTRID>strecdvvap15-52678CB9-31393-1004</clTRID>
      <svTRID>20131023084949608-1091131201-2</svTRID>
    </trID>
  </response>
</epp>
```

## **7 Simulating Status/Poll Messages in the OT&E Environment**

For registrars to view the Sunrise status values (Section 4.2) and retrieve Poll messages that reflect the EPP and Launch Phase status values (Section 6.3), the registry uses a combination of domain naming conventions, a signing utility, and cron jobs to simulate the process of a domain going from validated to either allocated or rejected Launch status.

The following steps must occur in order to simulate the Sunrise FCFS lifecycle.

### **7.1 Install the xmlSigner utility**

Install the provided signing utility. This utility is used to sign an SMD with an internal Neustar certificate. Because the simulation process depends upon a naming convention, the utility allows the registrar to create an SMD for a particular name (see below) and then follow it through the lifecycle. The package contains the following:

1. `xmlSigner.jar`
2. `encryptutil.jar`
3. `sampleUnsignedSmdForPollMessages.xml`
4. `signing-good.jks`

## 7.2 Create SMD

Sunrise domains must include a valid signed SMD object. Create an SMD and sign it using the utility in the section above. The domain name in the SMD should match the naming convention specified below.

In order to use signing utility following command should be used:

```
java -cp XmlSigner.jar:encryptutil.jar com.neustar.srs.test.util.XmlSigner signing-good.jks <inputXmlFile> <outputXmlFile> <generateEncoded>
```

Four parameters are required by signing utility:

1. Keystore file : signing-good.jks
2. Input XML file - unsigned SMD XML. This must contain mark labels of domain to be created. Mark-labels must match with specific format if poll message needs to be tested. A sample unsigned SMD XML provided in attachment. The domain naming convention should follow the specifics in the next section.
3. Output XML file – Generated signed SMD. This XML would either contain `smd:signedMark` element or `smd:encodedSignedMark` element, based on 4<sup>th</sup> parameter.
4. “true” or “false”, depending upon whether encoded signed mark data is required or not. “true” is recommended option.

Note:

1. Input XML's `smd:signedMark` element should have `id="signedMark"`.

## 7.3 Create Domains according to convention

Create domains according to the naming convention in the table below and include the corresponding SMDs generated above. Execute an EPP create domain for a specific domain name with a valid SMD file included.

Note:

1. XML Prolog in generated SMD should be removed while including it into create domain XML.
2. You can still create domains using the test SMDs provided by the TMDB. The SRS will accept both the TMDB SMDs, and those signed by the xmlSigner utility.

## 7.4 Domain Naming Convention

The following table describes the naming convention used to simulate the Sunrise EPP and Launch statuses for a domain.

<b>Type</b>	<b>Statuses (Launch/EPP)</b>	<b>Domain Names (CCID is Common Customer ID for the Registrar)</b>	
FCFS	Allocated/Pending Create (Post Inject Job)	DN-FCFS-CCID-ALLOC1.TLD thru DN-FCFS-CCID-ALLOC20.TLD	

## 7.5 Wait

The process that picks up the submitted domains and moves them to the next state run every x on the x. Once the job has run, check for poll messages and/or do EPP Info commands to see the change in status reflected in the domain/application.

## 8 Support

For EPP support, Organizational Test and Environment Certification (OT&E), or specific domain transaction questions, please contact your registrar relations representative or email [reg-support@neustar.biz](mailto:reg-support@neustar.biz).