```
Network Working Group                                     S. Hollenbeck
Internet-Draft                                             Verisign Labs
Intended status: Standards Track                           July 21, 2014
Expires: January 22, 2015
```

**Extension Registry for the Extensible Provisioning Protocol**
**draft-ietf-eppext-reg-07**

Abstract

   The Extensible Provisioning Protocol (EPP) includes features to add
   functionality by extending the protocol.  It does not, however,
   describe how those extensions are managed.  This document describes a
   procedure for the registration and management of extensions to EPP
   and it specifies a format for an IANA registry to record those
   extensions.

Status of This Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

   Internet-Drafts are working documents of the Internet Engineering
   Task Force (IETF).  Note that other groups may also distribute
   working documents as Internet-Drafts.  The list of current Internet-
   Drafts is at http://datatracker.ietf.org/drafts/current/.

   Internet-Drafts are draft documents valid for a maximum of six months
   and may be updated, replaced, or obsoleted by other documents at any
   time.  It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on January 22, 2015.

the Trust Legal Provisions and are provided without warranty as
described in the Simplified BSD License.

Table of Contents

## 1.  Conventions Used in This Document

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 RFC 2119 [RFC2119].

## 1.1.  Acronyms and Abbreviations

   EPP: Extensible Provisioning Protocol
   IANA: Internet Assigned Numbers Authority
   IPR: Intellectual Property Rights

## 2.  Introduction

Domain name registries implement a variety of operational and
business models.  The differences in these models made it impossible
to develop a "one size fits all" provisioning protocol, so the
Extensible Provisioning Protocol (EPP, [RFC5730]) was designed to
focus on a minimal set of common functionality with built-in
extension capabilities that allow new features to be specified on an
"as needed" basis.  Guidelines for extending EPP are documented in
Informational RFC 3735 [RFC3735].

RFCs 3735 and 5730 do not describe how extension development can be managed and coordinated.  This has led to a situation in which server operators can develop different extensions to address similar needs, such as the provisioning of Value Added Tax (VAT) information.  Clients then need to support multiple extensions that serve similar purposes, and interoperability suffers.

An IANA registry can be used to help manage and coordinate the development of protocol extensions.  This document describes an IANA registry that can be used to coordinate the development of EPP extensions.

## 3.  Extension Specification and Registration Procedure

This section describes the format of an IANA registry and the procedures used to populate and manage registry entries.

### 3.1.  Extension Specification

The "Specification Required" policy described in RFC 5226 [RFC5226] MUST be followed.  Extension specifications MUST be written and available in the English language.  Non-English specifications are OPTIONAL.  Note that Section 2.1 of RFC 3735 [RFC3735] provides specific guidelines for documenting EPP extensions.

Note that the "Specification Required" policy implies review by a Designated Expert.  Section 3 of RFC 5226 describes the role of Designated Experts and the function they perform.

### 3.1.1.  Designated Expert Evaluation Criteria

A high-level description of the role of the Designated Expert is described in Section 3.2 RFC 5226.  Specific guidelines for the appointment of Designated Experts and evaluation of EPP extensions are provided here.

The IESG should appoint a small pool of individuals (perhaps 3 - 5) to serve as designated experts as described in Section 3.2 of RFC 5226.  The pool should have a single administrative chair who is appointed by the IESG.  The designated experts should use the existing eppext mailing list (eppext@ietf.org) for public discussion of registration requests.  This implies that the mailing list should remain open after the work of the EPPEXT working group has concluded.

Extensions should be evaluated for architectural soundness using the guidelines described in RFC 3735 [RFC3735].  The results of the evaluation should be shared via email with the registrant and the eppext mailing list.  Issues discovered during the evaluation can be

corrected by the registrant and those corrections can be submitted to
the designated experts until the designated experts explicitly decide
to accept or reject the registration request.  The designated experts
must make an explicit decision and that decision must be shared via
email with the registrant and the eppext mailing list.

Designated experts should be permissive in their evaluation of
requests to register extensions that have been implemented and
deployed by at least one registry/registrar pair.  This implies that
it may indeed be possible to register multiple extensions that
provide the same functionality.  Requests to register extensions that
have not been deployed should be evaluated with a goal of reducing
functional duplication.  A potential registrant who submits a request
to register a new, un-deployed extension that includes similar
functionality to an existing, registered extension should be made
aware of the existing extension.  The registrant should be asked to
reconsider their request given the existence of a similar extension.
Should they decline to do so perceived similarity should not be a
sufficient reason for rejection as long as all other requirements are
met.

## 3.2.  Registration Procedure

The registry contains information describing each registered
extension.  Registry entries are created and managed by sending forms
to IANA that describe the extension and the operation to be performed
on the registry entry.

### 3.2.1.  Required Information

Name of Extension: A case-insensitive text string that contains the
name of the extension specification.

Specification Location: A URL [RFC3986] that describes the location
of the specification.

Registrant Name and Email Address: The case-insensitive name and
email address of the person that is responsible for managing the
registry entry.

TLDs: A case-insensitive text string description of the top-level
domain (or domains) for which the extension has been specified.
"Any" or "ANY" MUST be used if the extension is not associated with a
specific top-level domain.  Multiple TLDs SHOULD be specified as a
list of domain names separated by commas, e.g. ".com, .net".
Internationalized Domain Name (IDN) TLDs should be specified in
A-label [RFC5890] format.

IPR Disclosure: Either "None", "NONE", or a URL that describes the
location of an IPR disclosure document.  Depending on the type of
specification the IPR disclosure MAY be filed with the IETF in
accordance with RFC 3979 [RFC3979] as updated by RFC 4879 [RFC4879].
Non-IETF IPR disclosures MUST clearly identify the claimed
intellectual property rights and terms of use.  "None" or "NONE"
indicates that the extension is freely available for use with no
claimed intellectual property rights.

Status: Either "Active", "ACTIVE", "Inactive", or "INACTIVE".  The
"Active" status is used for extensions that are currently implemented
and available for use.  The "Inactive" status is used for extensions
that are not implemented or are otherwise not available for use.

Notes: Either "None", "NONE", or other text that describes optional
notes to be included with the registered extension.  If the Status
value is "Inactive" or "INACTIVE" text should be included to describe
how and when this state was reached.

### 3.2.2.  Registration Form

The required information MUST be formatted consistently using the
following form.  Form field names and values MAY appear on the same
line:

```
-----BEGIN FORM-----
Name of Extension:
<text string> (quotes are OPTIONAL)

Specification Location:
<URL>

Registrant Name and Email Address:
<registrant name>, <email address>

TLDs:
"Any"|"ANY"|<one or more TLD text strings separated by commas>

IPR Disclosure:
"None"|"NONE"|<URL>

Status:
"Active"|"ACTIVE"|"Inactive"|"INACTIVE"

Notes:
"None"|"NONE"|<optional text>
-----END FORM-----
```

Example form with RFC specification:

```
-----BEGIN FORM-----
Name of Extension:
"An Extension RFC for the Extensible Provisioning Protocol (EPP)"

Specification Location:
http://tools.ietf.org/html/rfcXXXX

Registrant Name and Email Address:
John Doe, jdoe@example.com

TLDs: Any

IPR Disclosure: None

Status: Active

Notes: None
-----END FORM-----
```

Example form with non-RFC specification:

```
-----BEGIN FORM-----
Name of Extension:
"An Example Extension for the .example Top-Level Domain"

Specification Location:
http://www.example.com/html/example-epp-ext.txt

Registrant Name and Email Address:
John Doe, jdoe@example.com

TLDs: .example

IPR Disclosure:
http://www.example.com/ipr/example-epp-ext-ipr.html

Status: Active

Notes: None
-----END FORM-----
```

### 3.2.3.  Registration Processing

Each registration form sent to IANA MUST contain a single record for
incorporation into the registry.  The form will be sent via email to
<iana@iana.org> by the extension registrant.  It MUST have a subject

line indicating whether the enclosed form represents an insertion of
a new record (indicated by the word "INSERT" in the subject line) or
a replacement of an existing record (indicated by the word "MODIFY"
in the subject line).  At no time can a record be deleted from the
registry.

### 3.2.4.  Updating Registry Entries

All changes to existing registry entries MUST be documented with text
in the "Notes" field of the registration form.  Under normal
circumstances registry entries MAY only be updated by the registrant.
If the registrant becomes unavailable or otherwise unresponsive, the
designated expert MAY submit a registration form to IANA to update
the registrant information.  Entries MAY change state from "Active"
to "Inactive" and back again as long as state change requests conform
to the processing requirements identified in this document.  Entries
for which a specification becomes consistently unavailable over time
should be marked "Inactive" by the designated expert until such time
as the specification again becomes reliably available.

### 4.  IANA Considerations

IANA is requested to create a new protocol registry to manage EPP
extensions.  The information to be registered and the procedures to
be followed in populating the registry are described in Section 3.

Name of registry: Extensions for the Extensible Provisioning Protocol

Required information: See Section 3.2.1.

Review process: "Specification Required" as described in RFC 5226
[RFC5226].

Size, format, and syntax of registry entries: See Section 3.2.1.

Initial assignments and reservations:

```
-----BEGIN FORM-----
Name of Extension:
"Domain Registry Grace Period Mapping for the
Extensible Provisioning Protocol (EPP)"

Specification Location:
http://tools.ietf.org/html/rfc3915

Registrant Name and Email Address:
Scott Hollenbeck, shollenbeck@verisign.com

TLDs: Any

IPR Disclosure: None

Status: Active

Notes: None
-----END FORM-----

-----BEGIN FORM-----
Name of Extension:
"E.164 Number Mapping for the
Extensible Provisioning Protocol (EPP)"

Specification Location:
http://tools.ietf.org/html/rfc4114

Registrant Name and Email Address:
Scott Hollenbeck, shollenbeck@verisign.com

TLDs: Any

IPR Disclosure: None

Status: Active

Notes: None
-----END FORM-----
```

```
     -----BEGIN FORM-----
     Name of Extension:
     "ENUM Validation Information Mapping for the
     Extensible Provisioning Protocol"

     Specification Location:
     http://tools.ietf.org/html/rfc5076

     Registrant Name and Email Address:
     Bernie Hoeneisen, bernhard.hoeneisen@switch.ch,
     bernie@ietf.hoeneisen.ch

     TLDs: Any

     IPR Disclosure: None

     Status: Active

     Notes: None
     -----END FORM-----

     -----BEGIN FORM-----
     Name of Extension:
     "Domain Name System (DNS) Security Extensions Mapping for the
     Extensible Provisioning Protocol (EPP)"

     Specification Location:
     http://tools.ietf.org/html/rfc5910

     Registrant Name and Email Address:
     James Gould, jgould@verisign.com

     TLDs: Any

     IPR Disclosure: None

     Status: Active

     Notes: None
     -----END FORM-----
```

   In addition, the form used to populate and manage the registry is to
   be added to the table of Protocol Registration Forms maintained by
   IANA.

5.  Security Considerations

   Using email to deliver forms to IANA carries a risk of registry
   entries being created or updated by an attacker who is able to spoof
   the email address of a legitimate extension registrant.  This risk
   can be mitigated by replying to received messages with a request to
   confirm the requested action.  The reply will be delivered to the
   specified registrant, who can validate or refute the request.

6.  Acknowledgements

   The information described in the registry is based on a suggestion
   posted to the provreg mailing list by Jay Daley in August 2013.

7.  References

7.1.  Normative References

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

   [RFC3979]   Bradner, S., "Intellectual Property Rights in IETF
               Technology", BCP 79, RFC 3979, March 2005.

   [RFC3986]   Berners-Lee, T., Fielding, R., and L. Masinter, "Uniform
               Resource Identifier (URI): Generic Syntax", STD 66, RFC
               3986, January 2005.

   [RFC4879]   Narten, T., "Clarification of the Third Party Disclosure
               Procedure in RFC 3979", BCP 79, RFC 4879, April 2007.

   [RFC5226]   Narten, T. and H. Alvestrand, "Guidelines for Writing an
               IANA Considerations Section in RFCs", BCP 26, RFC 5226,
               May 2008.

   [RFC5730]   Hollenbeck, S., "Extensible Provisioning Protocol (EPP)",
               STD 69, RFC 5730, August 2009.

   [RFC5890]   Klensin, J., "Internationalized Domain Names for
               Applications (IDNA): Definitions and Document Framework",
               RFC 5890, August 2010.

7.2.  Informative References

   [RFC3735]   Hollenbeck, S., "Guidelines for Extending the Extensible
               Provisioning Protocol (EPP)", RFC 3735, March 2004.

**Appendix A**.  **Change Log**

   Initial -00:  First working group version.
   -01:  Added initial registry entries to Section 4.
   -02:  Spelling corrections.  Added Section 3.1.1.  Added "Notes"
      field to the registration template.
   -03:  Added reference to Section 2.1 of RFC 3735 in Section 3.1.
   -04:  Added "Status" field to the registration template.  Fixed typo
      in Section 3.1.1.  Reformatted examples and initial registry
      entries.
   -05:  Added text to clarify how existing registry entries can and
      can't be edited.
   -06:  Modified text in Section 3.1.1 to make it clear that it is
      possible to register functionally similar extensions.
   -07:  Address WG last call comments.

Author's Address

   Scott Hollenbeck
   Verisign Labs
   12061 Bluemont Way
   Reston, VA  20190
   US

   Email: shollenbeck@verisign.com
   URI:   http://www.verisignlabs.com/