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|---|---|
| Stream: | Internet Engineering Task Force (IETF) |
| RFC: | 10091 |
| BCP: | 248 |
| Obsoletes: | 7451 |
| Category: | Best Current Practice |
| Published: | November 2026 |
| ISSN: | 2070-1721 |
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# RFC 10091
# Extension Registry for the Extensible Provisioning Protocol

## Abstract

The Extensible Provisioning Protocol (EPP) includes features to add functionality by extending the protocol. It does not, however, describe how those extensions are maintained. 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. This document obsoletes RFC 7451.

## Status of This Memo

This memo documents an Internet Best Current Practice.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on BCPs is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at https://www.rfc-editor.org/info/rfc10091.

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# 1. Introduction

Domain name registries implement a variety of operational and business models. The differences in these models make it impossible to develop a "one size fits all" provisioning protocol; the Extensible Provisioning Protocol [STD69] 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 [RFC3735] (or its future replacement).

[STD69] and [RFC3735] 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 as a result.

[RFC7451] filled that gap by defining the "Extensions for the Extensible Provisioning Protocol (EPP)" IANA registry [IANA-REG] to help manage and coordinate the development of EPP extensions.

This document addresses issues that were identified with [RFC7451] over time. Refer to Section 1.1 for more details.

## 1.1. Changes Since RFC 7451

- The intended status has been changed from Informational to Best Current Practice (BCP).
- The name of the mailing list used to review and discuss registration requests was changed from "eppext" to "regext" throughout the document.
- Section 2.1 has been updated to note that Internet-Draft documents are not acceptable specifications for this registry.
- Section 2.1.1 has been updated to describe that designated experts are responsible for confirming the correctness of URIs used in extension registration requests, and that IETF namespaces **MUST** be reserved for specifications published in the IETF Stream.
- Section 2.2.1 has been updated by adding "Other" to the set of document status values for the registry to avoid confusion with "Informational" RFCs and removing use of "Informational" for proprietary extensions. This document includes instructions for IANA to update existing registry entries appropriately.
- Section 2.2.2 has been updated by changing "<registrant name>, <email address>" to "<name>, <address>" to meet right margin constraints.
- Section 2.2.3 has been updated to note that registry entries can be removed with IESG approval.
- Section 5 (Operational Considerations) has been added.

## 1.2. Conventions Used in This Document

The key words "**MUST**", "**MUST NOT**", "**REQUIRED**", "**SHALL**", "**SHALL NOT**", "**SHOULD**", "**SHOULD NOT**", "**RECOMMENDED**", "**NOT RECOMMENDED**", "**MAY**", and "**OPTIONAL**" in this document are to be interpreted as described in BCP 14 [RFC2119] [RFC8174] when, and only when, they appear in all capitals, as shown here.

# 2. Extension Specification and Registration Procedure

This section describes the format of the Extensions for the Extensible Provisioning Protocol (EPP) IANA registry [IANA-REG] and the procedures used to populate and manage registry entries.

## 2.1. Extension Specification

This registry uses the "Specification Required" policy described in [RFC8126]. Note that Section 2.1 of [RFC3735] (or its future replacement) provides specific guidelines for documenting EPP extensions.

The "Specification Required" policy requires review by a designated expert. Section 5 of [RFC8126] describes the role of designated experts and the function they perform. For this registry, acceptable specifications include RFC documents and proprietary specifications that meet the "permanent and readily available" requirement described in Section 4.6 of [RFC8126]. An English language version of the extension specification **MUST** be referenced from the registry, though non-English versions of the specification may also be provided. Internet-Draft documents are not acceptable specifications for future registrations. Early allocations [RFC7120] do not apply to the Extensions for the EPP IANA registry [IANA-REG].

### 2.1.1. Designated Expert Evaluation Criteria

Section 5.2 of [RFC8126] describes the role of designated experts. This section describes how the practices described in [RFC8126] are applied for evaluation of EPP extension registration requests.

The IESG should appoint a primary designated expert and a small number of individuals (perhaps 3 - 5) to serve as backup designated experts as described in Section 5.2 of [RFC8126]. The primary designated expert is responsible for conducting all reviews requested by IANA. The secondary designated experts are responsible for conducting reviews as a simple majority, consensus-based group if the primary designated expert is unavailable. In cases where a registration decision could be perceived as creating a conflict of interest for a particular Designated Expert, that Expert **MUST** defer to the judgment of the other Experts. The designated experts **MUST** use the existing regext mailing list (regext@ietf.org) or its successor for public discussion of registration requests.

Extensions should be evaluated for architectural soundness using the guidelines described in [RFC3735] (or its future replacement), including the Security Considerations section of that document. Expert evaluation should explicitly include consideration of the privacy consequences of proposed extensions, and, at a minimum, ensure that any privacy considerations are fully documented in the relevant specification(s).

URIs proposed in extensions (XML namespace and schema registration requests are commonly found in EPP extensions) should be evaluated for both syntactic and semantic correctness. XML schemas, XML schema URIs, and XML namespace URIs defined in the extension specification **MUST** be registered in the "IETF XML Registry" using the procedures described in [RFC3688]. IETF

namespaces **MUST** be reserved for specifications published in the IETF Stream. Non-IETF namespaces **MUST** be used for non-IETF specifications (which includes RFC documents produced by all non-IETF streams); the designated experts may need to work with a registrant to identify URIs that can be added to the "IETF XML Registry". Extensions and any normative references necessary to implement the extensions **MUST NOT** be denoted with "work in progress" or any similar description. Issues discovered during the evaluation **MUST** be shared with, and can be corrected by, the registrant until the designated experts explicitly decide to accept or reject the registration request.

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 or server/client 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, undeployed 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.

## 2.2. 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.

### 2.2.1. Required Information

Name of Extension:
: A case-insensitive, ASCII text string that contains the name of the extension specification and does not overlap with an existing registered extension. Non-ASCII representations of the extension name can be included in the "Notes" described below.

Document Status:
: The document status of the specification document. For RFCs, the possible set of values includes "Standards Track", "Informational", "Experimental", "Historic", and "BCP" as described in Sections 4 and 5 of [RFC2026]. For documents that are not RFCs, this will always be "Other".

Reference:
: A permanent, publicly available reference to the specification of this extension as described in Section 2.1.1.

Registrant Name and Email Address:
: The name and email address of the entity that is responsible for managing the registry entry. If the extension is registered by an IETF Stream RFC, this can simply be listed as "IETF, <iesg@ietf.org>".

TLDs:
: A text string containing the top-level domain name (or domain names), including the preceding ".", for which the extension has been specified (e.g., ".org"). If there are multiple TLDs, they are given as a list of domain names separated by commas, (e.g. ".com", ".net"). Internationalized Domain Name (IDN) TLDs **MUST** be specified in A-label [RFC5890] format. If the extension is not associated with a specific top-level domain, the case-insensitive text string "Any" can be used to indicate that. If the extension is not associated with domain name processing, the case-insensitive text string "N/A" (Not Applicable) can be used to indicate that.

IPR Disclosure:
: A pointer to any Intellectual Property Rights (IPR) disclosure document(s) related to this extension, or "None" may be used if there are no such disclosures. This can be an IPR disclosure filed with the IETF in accordance with BCP 79 [BCP79] if the extension is part of an IETF Contribution, or it can be other IPR disclosure documents identifying the claimed intellectual property rights and terms of use for extensions that are not part of an IETF Contribution.

Status:
: Either "Active" or "Inactive". The "Active" status is used for extensions that are currently implemented and in use. The "Inactive" status is used for extensions that are not implemented or are otherwise not being used. "Inactive" can also be used for extensions for which a reference specification becomes unavailable as described in Section 2.2.4.

Notes: Either "None" or other text that describes optional notes to be included with the registered extension. If the Status value is being changed, text **MUST** be included to describe the rationale for the status change.

#### 2.2.2. Registration Form

The required information **MUST** be provided using the following registration form. Form field names and values **MAY** appear on the same line.

> Name of Extension: <text string> (quotes are optional)
>
> Document Status: <document status>
>
> Reference: <RFC number, URL, etc.>
>
> Registrant Name and Email Address: <name>, <address>
>
> TLDs: "Any"|"N/A"|<one or more TLD text strings separated by commas>
>
> IPR Disclosure: "None"|<URL>
>
> Status: "Active"|"Inactive"
>
> Notes: "None"|<optional text>

Example form with RFC specification:

> Name of Extension: "An Extension RFC for the Extensible Provisioning Protocol (EPP)"

Document Status: Standards Track

Reference: RFC XXXX

Registrant Name and Email Address: IETF, <iesg@ietf.org>

TLDs: Any

IPR Disclosure: None

Status: Active

Notes: None

Example form with non-RFC specification:

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

Document Status: Other

Reference: https://www.example.com/html/example-epp-ext.txt

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

TLDs: .example

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

Status: Active

Notes: None

#### 2.2.3. Registration Processing

Registrants should send each registration form to IANA with a single record for incorporation into the registry (see <https://www.iana.org/assignments/epp-extensions>). Send the form via email to <iana@iana.org> or complete the online form. The subject line **MUST** indicate the type of request by including one of the following:

INSERT: indicates insertion of a new record,

MODIFY: indicates replacement of an existing record,

DEACTIVATE: indicates deactivation of an existing record, or

REMOVE: indicates removal of an existing record.

Removal of registrations created through IETF consensus **MUST** be approved by the IESG using the IESG Approval process described in Section 4.10 of [RFC8126]. Registrations not created through IETF consensus can be removed or deactivated with the approval of the IESG, or at the request of the original registrant, in consultation with or at the request of the designated experts.

On receipt of a registration request, IANA will initiate review by the designated expert(s), who will evaluate the request using the criteria in Section 2.1.1 in consultation with the current working group mailing list focused on the development of EPP extensions, if such a working group exists.

#### 2.2.4. Updating Registry Entries

When submitting changes to existing registry entries, include text in the "Notes" field of the registration form describing the change. Under normal circumstances, registry entries are only to be updated by the registrant. If the registrant becomes unavailable or is otherwise unresponsive, a designated expert can submit a registration form to IANA to update the registrant information. Entries can change state from "Active" to "Inactive" and back again as long as state-change requests conform to the processing requirements identified in this document. In addition to entries that become "Inactive" due to a lack of implementation, entries for which a specification becomes consistently unavailable over time should be marked "Inactive" by the designated expert until the specification again becomes reliably available.

## 3. IANA Considerations

Section 2 provides IANA registration considerations. These considerations are not repeated here.

IANA has created the "Extensions for the Extensible Provisioning Protocol (EPP)" registry [IANA-REG] to manage EPP extensions, described in Section 2. In the registry, IANA has replaced the reference to [RFC7451] with a reference to this RFC and added a note to explain that the early allocation policy defined in [RFC7120] does not apply. IANA has also changed the "Document Status" of all non-RFC documents from "Informational" to "Other".

## 4. Security Considerations

This document introduces no new security considerations to EPP. However, extensions should be evaluated according to the Security Considerations of [RFC3735] (or its future replacement) and [STD69].

## 5. Operational Considerations

The updates defined in this document are meant to enhance the guidance for reviewing EPP extensions (e.g., avoid non-IETF specifications squatting on IETF XML namespaces) and thus allow for better interoperability.

Section 2 includes provisions for modifying and deleting existing registration entries by registrants. Such requests may have operational implications on other entities that deploy those extensions. Note that the registry does not include a history mechanism and there is no way to track deleted entries once they have been removed.

Section 3 updates the content of "Document Status" to be compliant with the guidance in Section 2. The update does not impact the extension itself or induce any operational issues.

# 6. References

## 6.1. Normative References

**[BCP79]** Best Current Practice 79, <https://www.rfc-editor.org/info/bcp79>.
At the time of writing, this BCP comprises the following:

Bradner, S. and J. Contreras, "Intellectual Property Rights in IETF Technology", BCP 79, RFC 8179, DOI 10.17487/RFC8179, May 2017, <https://www.rfc-editor.org/info/rfc8179>.

**[STD69]** Internet Standard 69, <https://www.rfc-editor.org/info/std69>.
At the time of writing, this STD comprises the following:

Hollenbeck, S., "Extensible Provisioning Protocol (EPP)", STD 69, RFC 5730, DOI 10.17487/RFC5730, August 2009, <https://www.rfc-editor.org/info/rfc5730>.

Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Domain Name Mapping", STD 69, RFC 5731, DOI 10.17487/RFC5731, August 2009, <https://www.rfc-editor.org/info/rfc5731>.

Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Host Mapping", STD 69, RFC 5732, DOI 10.17487/RFC5732, August 2009, <https://www.rfc-editor.org/info/rfc5732>.

Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Contact Mapping", STD 69, RFC 5733, DOI 10.17487/RFC5733, August 2009, <https://www.rfc-editor.org/info/rfc5733>.

Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Transport over TCP", STD 69, RFC 5734, DOI 10.17487/RFC5734, August 2009, <https://www.rfc-editor.org/info/rfc5734>.

**[RFC2026]** Bradner, S., "The Internet Standards Process -- Revision 3", BCP 9, RFC 2026, DOI 10.17487/RFC2026, October 1996, <https://www.rfc-editor.org/info/rfc2026>.

**[RFC2119]** Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, DOI 10.17487/RFC2119, March 1997, <https://www.rfc-editor.org/info/rfc2119>.

**[RFC3688]** Mealling, M., "The IETF XML Registry", BCP 81, RFC 3688, DOI 10.17487/RFC3688, January 2004, <https://www.rfc-editor.org/info/rfc3688>.

**[RFC3735]** Hollenbeck, S., "Guidelines for Extending the Extensible Provisioning Protocol (EPP)", RFC 3735, DOI 10.17487/RFC3735, March 2004, <https://www.rfc-editor.org/info/rfc3735>.

**[RFC5890]** Klensin, J., "Internationalized Domain Names for Applications (IDNA): Definitions and Document Framework", RFC 5890, DOI 10.17487/RFC5890, August 2010, <https://www.rfc-editor.org/info/rfc5890>.

**[RFC8126]** Cotton, M., Leiba, B., and T. Narten, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 8126, DOI 10.17487/RFC8126, June 2017, <https://www.rfc-editor.org/info/rfc8126>.

**[RFC8174]** Leiba, B., "Ambiguity of Uppercase vs Lowercase in RFC 2119 Key Words", BCP 14, RFC 8174, DOI 10.17487/RFC8174, May 2017, <https://www.rfc-editor.org/info/rfc8174>.

### 6.2. Informative References

**[RFC7120]** Cotton, M., "Early IANA Allocation of Standards Track Code Points", BCP 100, RFC 7120, DOI 10.17487/RFC7120, January 2014, <https://www.rfc-editor.org/info/rfc7120>.

**[RFC7451]** Hollenbeck, S., "Extension Registry for the Extensible Provisioning Protocol", RFC 7451, DOI 10.17487/RFC7451, February 2015, <https://www.rfc-editor.org/info/rfc7451>.

**[IANA-REG]** IANA, "Extensions for the Extensible Provisioning Protocol (EPP)", <https://www.iana.org/assignments/epp-extensions>.

## Acknowledgements

The information described in the registry is based on a suggestion posted to the provreg mailing list by Jay Daley in August 2013. The need to update [RFC7451] was first proposed by Gavin Brown. Additional feedback for the update was provided by the following people: Gavin Brown, James Galvin, James Gould, Pawel Kowalik, Andrew Newton, and Jasdip Singh.

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