Internationalized Domain Name Mapping Extension for the Extensible Provisioning Protocol (EPP)
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Abstract

This document describes an Extensible Provisioning Protocol (EPP) extension mapping for the provisioning of Internationalized Domain Names (IDN) stored in a shared central repository. This mapping extends the EPP domain name mapping to provide additional features required to implement registrations of domain names in character sets other than ASCII.

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Table of Contents

1. Introduction ................................................. 3
2. Conventions Used in This Document ....................... 3
3. EPP Command Mapping ........................................... 3
   3.1. EPP Query Commands ...................................... 4
       3.1.1. EPP <info> Command ............................... 4
   3.2. EPP Transform Commands ................................. 6
       3.2.1. EPP <create> Command ......................... 6
   3.3. Formal Syntax .......................................... 7
4. Security Considerations ..................................... 7
5. References .................................................... 7
   5.1. Normative References .................................... 7
   5.2. Informational References ............................... 8
Authors’ Addresses ............................................. 8
1. Introduction

The EPP protocol provides a complete description of EPP command and response structures. A thorough understanding of the base protocol specification is necessary to understand the mapping described in this document.

This document is written in consideration with the Guidelines for Extending the Extensible Provisioning Protocol as defined in [RFC3735].

To comply with the Guidelines for the Implementation of Internationalized Domain Names [1], it is required to associate each label to be registered with a single script, as defined by the code division of the Unicode code chart. This requirement imposes a challenge for registries using the EPP protocol, since there is no such field currently in the domain name mapping to allow for this information to be exchanged.

This extension adds one additional data element to the EPP Domain Name mapping, to allow for association of a domain name to a language tag. However, this extension itself can be extended to incorporate more, as required by registry policy.

2. 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 [RFC2119].

XML is case sensitive. Unless stated otherwise, XML specifications and examples provided in this document MUST be interpreted in the character case representation presented in order to develop a conforming specification.

"idn-1.0" is used as an abbreviation for "urn:ietf:params:xml:ns:idn-1.0". The XML namespace prefix "idn" is used, but implementations MUST NOT depend on it and instead employ a proper namespace-aware XML parser and serializer to interpret and output the XML documents.

3. EPP Command Mapping

A detailed description of the EPP syntax and semantics can be found in [RFC5730].
3.1. EPP Query Commands

This extension does not add any elements to the EPP <check>, <poll>, or <transfer> commands or responses.

3.1.1. EPP <info> Command

This extension does not add any elements to the EPP <info> command.

On the <info> response, the extension MUST contain the <idn:language> element if the extension was requested during the session <login> command.

Example <info> command:

C:<?xml version="1.0" encoding="UTF-8" standalone="no"?>
C: <epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
C:   <command>
C:     <info>
C:       <domain:info
C:        xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
C:         <domain:name hosts="all">example.com</domain:name>
C:         <domain:authInfo>
C:           <domain:pw>2fooBAR</domain:pw>
C:         </domain:authInfo>
C:       </domain:info>
C:     </info>
C:     <clTRID>ABC-12345</clTRID>
C:   </command>
C: </epp>

Example <info> response for an authorized client:
3.2. EPP Transform Commands

This extension does not add any elements to the EPP <delete>, <renew>, or <transfer> commands or responses.

3.2.1. EPP <create> Command

This extension defines additional elements for the EPP <create> command.

The command MUST contain an <extension> element, which MUST contain a child <idn:language> element.

Example <create> command:

C:<?xml version="1.0" encoding="UTF-8" standalone="no"?>
C:<epp xmlns="urn:ietf:params:xml:ns:epp-1.0">
C: <command>
C:   <create>
C:     <domain:create
C:       xmlns:domain="urn:ietf:params:xml:ns:domain-1.0">
C:     <domain:name>example.com</domain:name>
C:     <domain:period unit="y">2</domain:period>
C:     <domain:ns>
C:       <domain:hostObj>ns1.example.net</domain:hostObj>
C:       <domain:hostObj>ns2.example.net</domain:hostObj>
C:     </domain:ns>
C:     <domain:registrant>jd1234</domain:registrant>
C:     <domain:contact type="admin">sh8013</domain:contact>
C:     <domain:contact type="tech">sh8013</domain:contact>
C:     <domain:authInfo>
C:       <domain:pw>2fooBAR</domain:pw>
C:     </domain:authInfo>
C:   </create>
C:   <extension>
C:   </extension>
C:   <clTRID>123456</clTRID>
C: </command>
C:</epp>
3.3. Formal Syntax

An EPP object mapping is specified in XML Schema notation. The formal syntax presented here is a complete schema representation of the object mapping suitable for automated validation of EPP XML instances.

<!-- Child elements found in EPP commands.-->
<element name="language" type="language"/>
<!-- End of schema. -->

4. Security Considerations

The mapping extensions described in this document do not provide any security services beyond those described by EPP [RFC5730] the EPP domain name mapping [RFC5731], and protocol layers used by EPP. The security considerations described in these other specifications apply to this specification as well.

5. References

5.1. Normative References


5.2. Informational References


URIs


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