EPP EAI Functional Extension

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Background: EPP protocol

Extensible Provisioning Protocol (EPP) defined in RFC 5730-5734

Management of objects stored in the central repository

Basic objects: Contacts, Domains, Hosts

Extensible: RFC 3735

Background: EAI status

EAI (Email Address Internationalization) specified in RFCs 6530-6533

Allows non-ASCII left part of email addresses, see RFC 6531 for formal definition

Requires explicit protocols/profiles changes

E.g. RFC 8399 Internationalization Updates to RFC 5280

Intention: EAI in EPP

- Covers all EPP objects and extensions negotiated in an EPP session having email address fields.
- EAI as first-class option

Functional extension

In the document we bring up the new type of EPP extensions

Functional EPP extension is a new form of an EPP extension that doesn't define new objects or object attributes, but defines how an existing set of object attributes are handled.

Functional EPP extension applies a functional capability to an existing set of EPP extensions and properties

In this case it's associated with the handling of the email address fields.

Implementation approach

- Current version of the document: https://datatracker.ietf.org/doc/draft-ietf-regext-epp-eai/
- No XML schema changes required
  - RFC 5730 syntax formally allows EAI
- Implicit Replacement Based on Login Services
  - \<login\> from client
  - \<greeting\> from server
  - Support indicated by "urn:ietf:params:xml:schema:epp:eai-X.X" XML namespace

Server obligations when extension is negotiated

- Accept EAI compatible addresses for all email properties in the EPP session negotiated object extensions and command-response extensions.
  - <contact:email> element in [RFC5733] and the <org:email> element in [RFC8543].
- Accept EAI compatible addresses for all registry zones (e.g., top-level domains) authorized for the client in the EPP session.
- Email address validation based on EAI validation rules
- Storage of email attributes that supports internationalized characters.
- Return EAI compatible addresses for all email properties in the EPP responses.

Client obligations when extension is negotiated

- Provide EAI compatible addresses for all e-mail properties in the EPP session negotiated object extensions and command-response extensions.
  - For example the <contact:email> element in [RFC5733] and the <org:email> element in [RFC8543].
- Provide EAI compatible addresses for all registry zones (e.g., top-level domains) authorized for the client in the EPP session.
- Accept EAI compatible addresses in the EPP responses for all email properties in the EPP session negotiated object extensions and command-response extensions.

EAI supporting server obligations with non-supporting client on receiving request

When the email property is required in the EPP extension command, the server SHOULD validate the email property by the client using the ASCII email validation rules.

When the email property is optional according the EPP extension command, if the client supplies the email property the server SHOULD validate the email property using the ASCII email validation rules.

EAI supporting server obligations with non-supporting client on sending response

When the email property is required in the EPP extension response, the server MUST validate whether the email property is an EAI address and if so return error

Expected error code: 2308 "Data management policy violation"

EAI supporting client obligations with non-supporting server

When the email property is required in the EPP extension command and the email property is an EAI address with no alternative ASCII address, the client MUST provide the valid ASCII email address **suitable for contacting the registrant**.

When the email property is optional in the EPP extension command and the email property is an EAI address with no alternative ASCII address, the client SHOULD omit the email property.

Questions?

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