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**Domain Name Registration Data (DNRD) Comma-Separated Values (CSV)
Objects Mapping
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Abstract

This document specifies the format and contents of Data Escrow deposits for the standard set of Domain Name Registration Data (DNRD) objects including domain, host, contact, and registrar using XML for definition and Comma-Separated Values (CSV) Files for data.

Status of this Memo

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1. Introduction

The Registry Data Escrow Specification [[1](#)] can be extended to support any type of object that is included in a data escrow. This document defines the data escrow structure of the standard set of objects for Domain Name Registration Data (DNRD), using XML for definition and Comma-Separated Values (CSV) files for data, which include:

Domain: Internet domain names that are typically provisioned in a Domain Name Registry using the EPP domain name mapping [[RFC5731](#)]. The attributes defined in the EPP domain name mapping [[RFC5731](#)] are fully supported by this document.

Host: Internet host names that are typically provisioned in a Domain Name Registry using the EPP host mapping [[RFC5732](#)]. The attributes defined in the EPP host mapping [[RFC5732](#)] are fully supported by this document.

Contact: Individual or organization social information provisioned in a Domain Name Registry using the EPP contact mapping [[RFC5733](#)]. The attributes defined in the EPP contact mapping [[RFC5733](#)] are fully supported by this document.

Registrar: The organization that sponsors objects like domains, hosts, and contacts in a Domain Name Registry. The Registrar MAY also be associated with contacts, referred to as registrars contacts.

IDN language rules: Internationalized Domain Names (IDN) in the Domain Object Data Escrow include references to the languages rules that define the set of character code points allowed for a specific language.

Bulk data exports and imports from and to a database is a natural fit for the use of Comma-Separated Values (CSV) files, but CSV files don't provide any formal description that is a natural fit for the use of XML. This document fully supports the full, incremental, and differential deposits defined in the Registry Data Escrow Specification [[2](#)] with a flexible and extensible model for Domain Name Registration Data (DNRD) that leverages Comma-Separated Values (CSV) files for creating and consuming the deposits in a cost effective manner.

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 [RFC 2119](#) [[RFC2119](#)].

3. Object Attributes

3.1. Date and Time

Numerous fields indicate "dates", such as the creation and expiry dates for domains. These fields SHALL contain timestamps indicating the date and time in UTC as specified in [[RFC3339](#)], with no offset from the zero meridian.

3.2. Country names

Country identifiers SHALL be represented using two character identifiers as specified in [[ISO-3166-1](#)].

3.3. Telephone numbers

Telephone numbers (both voice and fax) SHALL be formatted based on structures defined in [[ITU-E164](#)]. Telephone numbers described in this specification are character strings that MUST begin with a plus sign ("+", ASCII value 0x002B), followed by a country code defined in [[ITU-E164](#)], followed by a dot (".", ASCII value 0x002E), followed by a sequence of digits representing the telephone number.

3.4. Internationalized and Localized Elements

Some elements MAY be provided in either internationalized form ("int") or provided in localized form ("loc"). Those elements use a field value or "isLoc" attribute to specify the form used. If an "isLoc" attribute is used, a value of "true" indicates the use of the localized form and a value of "false" indicates the use of the internationalized form. This MAY override the form specified for a parent element. A value of "int" is used to indicate the internationalized form and a value of "loc" is used to indicate the localized form. When the internationalized form ("int") is provided, the field value MUST be represented in a subset of UTF-8 that can be represented in the 7-bit US-ASCII character set. When the localized form ("loc") is provided, the field value MAY be represented in unrestricted UTF-8. Some of the field elements below of the "registrar" <rdeCsv:csv> <rdeCsv:fields> element specify the internationalized form with the isLoc="false" attribute:


```
...
<csvRegistrar:contents>
...
  <rdeCsv:csv name="registrar">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvRegistrar:fId/>
      <rdeCsv:fRoid/>
      <csvRegistrar:fName isLoc="false"/>
      <csvRegistrar:fGurid/>
      <csvRegistrar:fStatus/>
      <csvContact:fStreet isLoc="false" index="0"/>
      <csvContact:fStreet isLoc="false" index="1"/>
      <csvContact:fStreet isLoc="false" index="2"/>
      <csvContact:fCity isLoc="false" />
      <csvContact:fSp isLoc="false" />
      <csvContact:fPc isLoc="false" />
      <csvContact:fCc isLoc="false" />
      <csvContact:fVoice/>
      <csvContact:fVoiceExt/>
      <csvContact:fFax/>
      <csvContact:fFaxExt/>
      <csvContact:fEmail/>
      <rdeCsv:fUrl/>
      <csvRegistrar:fWhoisUrl/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
      <rdeCsv:fUpRr/>
      <rdeCsv:fUpID/>
      <rdeCsv:fUpDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1924040625 268">
        registrar-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvRegistrar:contents>
...
```

The following is an example of using the <csvContact:fPostalType> field value to define the internationalized or localized form of the remainder of the "contactPostal" field values.


```
...
<csvContact:contents>
...
  <rdeCsv:csv name="contactPostal">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <csvContact:fPostalType/>
      <csvContact:fName/>
      <csvContact:fOrg/>
      <csvContact:fStreet index="0"/>
      <csvContact:fStreet index="1"/>
      <csvContact:fStreet index="2"/>
      <csvContact:fCity/>
      <csvContact:fSp/>
      <csvContact:fPc/>
      <csvContact:fCc/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactPostal-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:contents>
...
```

3.5. IP addresses

IP addresses syntax MUST conform either to, Internet Protocol [[RFC0791](#)], for IPv4 addresses, or IP Version 6 Addressing Architecture [[RFC4291](#)], for IPv6 addresses.

3.6. CSV elements

3.6.1. <rdeCsv:csv> element

To support a CSV model with the Registry Data Escrow Specification [[1](#)], an element is defined for each object that substitutes for the <rde:content> element and for the <rde:delete> element, that contains one or more <rdeCsv:csv> elements. For example, the Domain Name Object ([Section 4.1](#)) defines the <csvDomain:contents> element, that substitutes for the <rde:content> element, and the <csvDomain:deletes> element, that substitutes for the <rde:delete> element. Both the <csvDomain:contents> element and the <csvDomain:deletes> elements contain one or more <rdeCsv:csv>

elements. The `<rdeCsv:csv>` element has the following child elements:

`<rdeCsv:sep>` Optional definition of the CSV separator characters with the default separator character of ",".

`<rdeCsv:fields>` Ordered list of CSV fields used in the CSV files. There is one or more child elements that substitute for the `<rdeCsv:field>` abstract element. Each element defines the format of the CSV field contained in the CSV files. The `<rdeCsv:field>` elements support the "type" attribute that defines the XML simple data type of the field element. The `<rdeCsv:field>` elements support the "isRequired" attribute, with a default value of "false", when set to "true" indicates that the field must be non-empty in the CSV files and when set to "false" indicates that the field MAY be empty in the CSV files. The "isRequired" attribute MAY be specifically set for the field elements within the XML schema and MAY be overridden when specifying the fields under the `<rdeCsv:fields>` element.

`<rdeCsv:files>` A list of one or more CSV files using the `<rdeCsv:file>` child element. The `<rdeCsv:file>` child element defines a reference to the CSV file name and has the following optional attributes:

`compression` If the CSV file is compressed, the "compression" attribute defines the compression format like "gzip" or "zip".

`encoding` Defines the encoding of the CSV file with the default encoding of "UTF-8".

`chksum` Defines the checksum CRC (UNIX cksum) of the CSV file. This attribute is used to validate that the full CSV file exists and has not been tampered with.

The `<rdeCsv:csv>` elements requires a "name" attribute that defines the purpose of the CSV file with values like "domain", "host", "contact". The supported "name" attribute values are defined for each object type.

The following is an example of the `<csvDomain:contents>` `<rdeCsv:csv>` element for domain name records where the `<rdeCsv:fRegistrant>` is set as required with `isRequired="true"`.


```
<csvDomain:contents>
...
  <rdeCsv:csv name="domain">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <rdeCsv:fRoid/>
      <rdeCsv:fLanguage/>
      <csvDomain:fOriginalName/>
      <rdeCsv:fRegistrant isRequired="true"/>
      <rdeCsv:fCLID/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
      <rdeCsv:fUpRr/>
      <rdeCsv:fUpID/>
      <rdeCsv:fUpDate/>
      <rdeCsv:fExDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domain-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
```

The following is example of the "domain-YYYYMMDD.csv" file with a single record matching the <rdeCsv:fields> definition.

```
domain1.test,Ddomain2-TEST,,,registrantid,registrarX,registrarX,
clientY,2009-04-03T22:00:00.0Z,registrarX,clientX
2009-12-03T09:05:00.0Z,2015-04-03T22:00:00.0Z
```

The following is an example of the <csvDomain:deletes> <rdeCsv:csv> element for domain name records.


```
<csvDomain:deletes>
...
  <rdeCsv:csv name="domain">
    <rdeCsv:fields>
      <csvDomain:fName/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domain-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:deletes>
```

The following is example of the "domain-delete-YYYYMMDD.csv" file with a single record and matching the single <csvDomain:fName> field.

```
domain1.test
domain2.test
domainN.test
```

3.6.2. CSV common field elements

The <rdeCsv:fields> element defined in the <rdeCsv:csv> element ([Section 3.6.1](#)) section has child elements that substitute for the abstract <rdeCsv:field> element. By convention <rdeCsv:field> elements include an 'f' prefix to identify it as a field definition element. There are a set of common field elements that are used across multiple data escrow objects. The common field elements are defined using the "urn:ietf:params:xml:ns:rdeCsv-1.0" namespace and using the "rdeCsv" sample namespace prefix. The CSV common field elements include:

<rdeCsv:fUName> UTF-8 encoded name field with type="eppcom:labelType".

<rdeCsv:fROID> Repository Object Identifier (ROID) field with type="eppcom:roidType" and isRequired="true".

<rdeCsv:fRegistrant> Registrant contact identifier with type="eppcom:clIDType".

- <rdeCsv:fStatusDescription> The object status description, which is free form text describing the rationale for the status, with type="normalizedString".
- <rdeCsv:fClID> Identifier of client (registrar) that sponsors the object with type="eppcom:clIDType" and isRequired="true".
- <rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object with type="eppcom:clIDType".
- <rdeCsv:fCrID> Identifier of client that created the object with type="eppcom:clIDType".
- <rdeCsv:fUpRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that updated the object with type="eppcom:clIDType".
- <rdeCsv:fUpID> Identifier of client that updated the object with type="eppcom:clIDType".
- <rdeCsv:fReRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that requested the transfer with type="eppcom:clIDType".
- <rdeCsv:fReID> Identifier of client that requested the transfer with type="eppcom:clIDType".
- <rdeCsv:fAcRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that should take or took action with type="eppcom:clIDType".
- <rdeCsv:fAcID> Identifier of client that should take or took action for transfer with type="eppcom:clIDType".
- <rdeCsv:fCrDate> Created date of object with type="dateTime".
- <rdeCsv:fUpDate> Updated date of object with type="dateTime".
- <rdeCsv:fExDate> Expiration date of object with type="dateTime".
- <rdeCsv:fReDate> Date that transfer was requested with type="dateTime".
- <rdeCsv:fAcDate> Date that transfer action should be taken or has been taken with type="dateTime".

<rdeCsv:fTrDate> Date of last transfer with type="dateTime".

<rdeCsv:fTrStatus> State of the most recent transfer request with type="eppcom:trStatusType".

<rdeCsv:fTokenType> General token field with type="token".

<rdeCsv:fLanguage> General language field with type="language".

<rdeCsv:fPositiveIntegerType> General positive integer field with type="positiveInteger".

<rdeCsv:fUrl> Contains the URL of an object like a registrar object with type="anyURI".

<rdeCsv:fCustom> Custom field with name attribute that defines the custom field name" with type="token".

4. Protocol Description

The following is a format for Data Escrow deposits for the standard set of objects for Domain Name Registration Data (DNRD). Format elements are reused from the EPP [[RFC5730](#)] and related RFCs.

4.1. Domain Name Object

The domain name object is based on the EPP domain name mapping in [[RFC5731](#)]. The elements used for the Domain Name Object is defined in this section. The <csvDomain:contents> child element of the <rde:contents> element is used to hold the new or updated domain name objects for the deposit. The <csvDomain:deletes> child element of the <rde:deletes> element is used to hold the deleted or purged domain name objects for the deposit. Both the <csvDomain:contents> and <csvDomain:deletes> elements contain one or more <rdeCsv:csv> elements with the following supported "name" attribute values:

"domain" Defines the fields and CSV file references used for the domain name object records. The following field elements were added for use in the "domain" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fName> Domain name field with type="eppcom:labelType" and isRequired="true".

<csvDomain:fOriginalName> Fully qualified name of the original IDN domain name object related to the variant domain name object with type="eppcom:labelType".

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "domain" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fUName> UTF8 encoded domain name for the <csvDomain:fName> field element.

<rdeCsv:fROID> Registry Object Identifier (ROID) for the domain name object.

<rdeCsv:fLanguage> IDN language tag for the IDN domain name object.

<rdeCsv:fRegistrant> Registrant contact identifier for the domain name object.

<rdeCsv:fClID> Identifier of client that sponsors the domain name object.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that created the domain name object.

<rdeCsv:fCrDate> Created date and time of the domain name object.

<rdeCsv:fUpRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that updated the object.

<rdeCsv:fUpID> Identifier of the client that last updated the domain name object.

<rdeCsv:fUpDate> Date and time of the last update to the domain name object.

<rdeCsv:fExDate> Expiration date and time for the domain name object.

<rdeCsv:fTrDate> Date and time of the last transfer for the domain name object.

Example of a "domain" <csvDomain:contents> <rdeCsv:csv> element:

```
...
<csvDomain:contents>
...
<rdeCsv:csv name="domain">
  <rdeCsv:sep>, </rdeCsv:sep>
  <rdeCsv:fields>
    <csvDomain:fName/>
    <rdeCsv:fRoid/>
    <rdeCsv:fLanguage/>
    <csvDomain:fOriginalName/>
    <rdeCsv:fRegistrant/>
    <rdeCsv:fClID/>
    <rdeCsv:fCrRr/>
    <rdeCsv:fCrID/>
    <rdeCsv:fCrDate/>
    <rdeCsv:fUpRr/>
    <rdeCsv:fUpID/>
    <rdeCsv:fUpDate/>
    <rdeCsv:fExDate/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      domain-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding domain-YYYYMMDD.csv file. The file contains four records (active ASCII domain, pendingDelete domain, original IDN with LANG1 language rules, and variant IDN with LANG1 language rules).


```
domain1.test,Ddomain2-TEST,,,registrantid,
registrarX,registrarX,clientY,2009-04-03T22:00:00.0Z,registrarX,
clientY,2009-12-03T09:05:00.0Z,2015-04-03T22:00:00.0Z
domain2.test,Ddomain1-TEST,,,registrantid,
registrarX,registrarX,clientY,1999-04-03T22:00:00.0Z,registrarX,
clientY,2009-12-03T09:05:00.0Z,2015-04-03T22:00:00.0Z
xn-abc123.test,Dxn-abc123-TEST,LANG1,,,
registrantid,registrarX,registrarX,clientY,
2009-04-03T22:00:00.0Z,registrarX,clientY,2009-12-03T09:05:00.0Z,
2015-04-03T22:00:00.0Z
xn-abc321.test,Dxn-abc321-TEST,LANG1,xn-abc123.test,
registrantid,registrarX,registrarX,clientY,2009-04-03T22:00:00.0Z,
registrarX,clientY,2009-12-03T09:05:00.0Z,2015-04-03T22:00:00.0Z
```

Example of a "domain" <csvDomain:deletes> <rdeCsv:csv> element:

```
...
<csvDomain:deletes>
...
<rdeCsv:csv name="domain">
  <rdeCsv:fields>
    <csvDomain:fName/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      domain-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domain-delete-YYYYMMDD.csv file. The file contains three domain name records.

```
domain1.test
domain2.test
domainN.test
```


"domainContacts" Defines the fields and CSV file references used for the domain name object link records to contact objects, as described in [Section 4.3](#). The following field elements were added for use in the "domainContacts" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fContactType> The contact type for the contact object link with type="domain:contactAttrType". The supported contact type values include "admin" for the administration contact, "billing" for the billing contact, and "tech" for the technical contact.

The following "csvDomain" fields, defined for the "domain" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainContacts" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fName> The name of the domain object that is linked to the contact object.

The following "csvContact" fields, defined for the "contact" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainContacts" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fId> The server-unique contact identifier.

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "domainContacts" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that created the domain object link to the contact object.

<rdeCsv:fCrDate> Date and time that the domain object link to the contact object was created.

Example of a "domainContacts" <csvDomain:contents> <rdeCsv:csv> element:

```
...
<csvDomain:contents>
...
  <rdeCsv:csv name="domainContacts">
    <rdeCsv:sep>, </rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvContact:fId/>
      <csvDomain:fContactType/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainContacts-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding domainContacts-YYYYMMDD.csv file.
The file contains an admin, tech, and billing contact for the two domain names domain1.test and domain2.test.

```
domain1.test,sh8013,admin,registrarX,
clientY,2011-10-03T09:05:00.0Z
domain1.test,mycontactid,tech,registrarX,
clientY,2011-10-03T09:05:00.0Z
domain1.test,mycontactid,billing,registrarX,
clientY,2011-10-03T09:05:00.0Z
domain2.test,mycontactid,admin,registrarX,
clientY,2011-10-03T09:05:00.0Z
domain2.test,sh8013,tech,registrarX,
clientY,2011-10-03T09:05:00.0Z
domain2.test,mycontactid,billing,registrarX,
clientY,2011-10-03T09:05:00.0Z
```


Example of a "domainContacts" <csvDomain:deletes> <rdeCsv:csv> element:

```
...
<csvDomain:deletes>
...
<rdeCsv:csv name="domainContacts">
  <rdeCsv:fields>
    <csvDomain:fName/>
    <csvContact:fId/>
    <csvDomain:fContactType/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      domainContacts-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domainContacts-delete-YYYYMMDD.csv file. The file contains two tech contact records.

```
domain1.test,mycontactid,tech
domain2.test,sh8013,tech
```

"domainStatuses" Defines the fields and CSV file references used for the domain name object statuses. The following field elements were added for use in the "domainStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fStatus> The status of the domain name with type="domain:statusValueType".

<csvDomain:fRgpStatus> The Registry Grace Period (RGP) status, as a sub-status of the <csvDomain:fStatus> "pendingDelete" status value, with type="rgp:statusValueType" as defined in [[RFC3915](#)].

The following "csvDomain" fields, defined for the "domain" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fName> Domain name of status.

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "domainStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fStatusDescription> Domain object status description which is free form text describing the rationale for the status.

<rdeCsv:fLanguage> Language of the <rdeCsv:fStatusDescription> field.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that set the status for the domain name object.

<rdeCsv:fCrDate> Date and time that the status was set for the domain name object.

Example of a "domainStatuses" <csvDomain:contents> <rdeCsv:csv> element:


```

...
<csvDomain:contents>
...
  <rdeCsv:csv name="domainStatuses">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvDomain:fStatus/>
      <rdeCsv:fStatusDescription/>
      <rdeCsv:fLanguage/>
      <csvDomain:fRgpStatus/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainStatuses-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...

```

Example of the corresponding domainStatuses-YYYYMMDD.csv file.
 The file contains the statuses for the two domain names
 domain1.test and domain2.test.

```

domain1.test,clientUpdateProhibited,"Disallow update",
en,,registrarX,clientY,2009-12-03T09:05:00.0Z
domain1.test,clientDeleteProhibited,"Disallow delete",
en,,registrarX,clientY,2010-12-04T10:05:00.0Z
domain2.test,clientUpdateProhibited,"Disallow update",
en,,registrarX,clientY,2011-10-03T09:05:00.0Z
domain2.test,pendingDelete,,,
redemptionPeriod,registrarX,clientY,2011-11-14T10:05:00.0Z

```

Example of a "domainStatuses" <csvDomain:deletes> <rdeCsv:csv>
 element:


```
...
<csvDomain:deletes>
...
<rdeCsv:csv name="domainStatuses">
  <rdeCsv:fields>
    <csvDomain:fName/>
    <csvDomain:fStatus/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      domainStatuses-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domainStatuses-delete-YYYYMMDD.csv file. The file contains two status records.

```
domain1.test,clientUpdateProhibited
domain2.test,pendingDelete
```

"domainNameServers" Defines the fields and CSV file references used for the domain name delegated hosts (name servers). The "domainNameServers" CSV files define the relationship between a domain name object and a delegated host. It will support both the <domain:hostAttr>, using a <rdeCsv:fRoid> field element, or the <domain:hostObj> model, using a <csvHost:fName> field element, defined in [[RFC5731](#)]. See [Section 4.2](#) for information in how to support either the <domain:hostAttr> or <domain:hostObj> model defined in [[RFC5731](#)] in the "host" CSV files.

The following "csvDomain" fields, defined for the "domain" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainNameServers" <rdeCsv:csv> <rdeCsv:fields> element:

```
<csvDomain:fName> Domain name using the delegated host name
  <csvHost:fName>.
```


The following "csvHost" fields, defined for the "host" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainNameServers" <rdeCsv:csv> <rdeCsv:fields> element:

<csvHost:fName> Host name of the delegated host. The host name MAY be used to uniquely identify the host object when using the <domain:hostObj> model defined in [[RFC5731](#)].

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "domainNameServers" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the link between the domain name object and the delegated host.

<rdeCsv:fCrID> Identifier of client that created the link between the domain name object and the delegated host.

<rdeCsv:fCrDate> Date and time that the delegated host (name server) was set for the domain name object.

<rdeCsv:fRoid> Registry Object Identifier (ROID) used to uniquely reference a delegated host record with the <domain:hostAttr> model in [[RFC5731](#)]. The host ROID MAY be used in place of the host name using the <csvHost:fName> field element. The <rdeCsv:fRoid> field element MAY also be defined for external hosts when the server supports a separate set of external host objects per sponsoring client.

Example of a "domainNameServers" <csvDomain:contents> <rdeCsv:csv> element for a server supporting the <domain:hostObj> model of [[RFC5731](#)].


```
...
<csvDomain:contents>
...
  <rdeCsv:csv name="domainNameServers">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvHost:fName/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainNameServersObj-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding domainNameServersObj-YYYYMMDD.csv file. The file contains the delegated hosts (name servers) for the two domain names domain1.test and domain2.test.

```
domain1.test,ns1.domain2.test,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain1.test,ns2.domain2.test,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain2.test,ns1.domain.example,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain2.test,ns2.domain.example,registrarX,
clientY,2009-12-03T09:05:00.0Z
```

Example of a "domainNameServers" <csvDomain:contents> <rdeCsv:csv> element for a server supporting the <domain:hostAttr> model of [\[RFC5731\]](#).


```
...
<csvDomain:contents>
...
  <rdeCsv:csv name="domainNameServers">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <rdeCsv:fRoid/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainNameServersAttr-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding domainNameServersAttr-YYYYMMDD.csv file. The file contains the delegated hosts (name servers) for the two domain names domain1.test and domain2.test referenced via the <rdeCsv:fRoid> field element.

```
domain1.test,Dns1.domain2.test-TEST,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain1.test,Dns2.domain2.test-TEST,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain2.test,Dns1.domain.example-TEST,registrarX,
clientY,2009-12-03T09:05:00.0Z
domain2.test,Dns2.domain.example-TEST,registrarX,
clientY,2009-12-03T09:05:00.0Z
```

Example of a "domainNameServers" <csvDomain:deletes> <rdeCsv:csv> element for a server supporting the <domain:hostObj> model of [\[RFC5731\]](#).


```
...
<csvDomain:deletes>
...
<rdeCsv:csv name="domainNameServers">
  <rdeCsv:fields>
    <csvDomain:fName/>
    <csvHost:fName/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      domainNameServersObj-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domainNameServersObj-delete-YYYYMMDD.csv file. The file contains two status records.

```
domain1.test,ns1.domain2.test
domain1.test,ns2.domain2.test
domain2.test,ns1.domain.example
domain2.test,ns2.domain.example
```

Example of a "domainNameServers" <csvDomain:deletes> <rdeCsv:csv> element for a server supporting the <domain:hostAttr> model of [\[RFC5731\]](#)


```
...
<csvDomain:deletes>
...
  <rdeCsv:csv name="domainNameServers">
    <rdeCsv:fields>
      <csvDomain:fName/>
      <rdeCsv:fRoid/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainNameServersAttr-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domainNameServersAttr-delete-YYYYMMDD.csv file. The file contains two status records.

```
domain1.test,Dns1.domain2.test-TEST
domain1.test,Dns2.domain2.test-TEST
domain2.test,Dns1.domain.example-TEST
domain2.test,Dns2.domain.example-TEST
```

"dnssec" Defines the fields and CSV file references used for the domain name object DNSSEC records (DS or Key Data). The following field elements were added for use in the "dnssec" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fMaxSigLife> Indicates a child's preference for the number of seconds after signature generation when the parent's signature on the DS information provided by the child will expire with type="secDNS:maxSigLifeType" defined in [[RFC5910](#)].

<csvDomain:fKeyTag> Contains the DS key tag value per [[RFC5910](#)] with type="unsignedShort".

<csvDomain:fDsAlg> Contains the DS algorithm value per [[RFC5910](#)] with type="unsignedByte".

<csvDomain:fDigestType> Contains the DS digest type value per [\[RFC5910\]](#) with type="unsignedByte".

<csvDomain:fDigest> Contains the DS digest value per [\[RFC5910\]](#) with type="hexBinary".

<csvDomain:fFlags> Contains the flags field value per [\[RFC5910\]](#) with type="unsignedShort".

<csvDomain:fProtocol> Contains the Key protocol value per [\[RFC5910\]](#) with type="unsignedByte".

<csvDomain:fKeyAlg> Contains the Key algorithm value per [\[RFC5910\]](#) with type="unsignedByte".

<csvDomain:fPubKey> Contains the public key value per [\[RFC5910\]](#) with type="secDNS:keyType".

The following "domain" fields, defined for the "domain" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "dnssec" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fName> Domain name of the domain object associated with the DNSSEC record.

Example of a "dnssec" <csvDomain:contents> <rdeCsv:csv> element with the DS Data Interface of [\[RFC5910\]](#):


```
<csvDomain:contents>
...
  <rdeCsv:csv name="dnssec">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvDomain:fMaxSigLife/>
      <csvDomain:fKeyTag/>
      <csvDomain:fDsAlg/>
      <csvDomain:fDigestType/>
      <csvDomain:fDigest/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        dnssec-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding dnssec-YYYYMMDD.csv file. The file contains two DS records for domain1.test.

```
domain1.test,604800,12345,3,1,49FD46E6C4B45C55D4AC
domain1.test,604800,12346,3,1,38EC35D5B3A34B44C39B
```

Example of a "dnssec" <csvDomain:contents> <rdeCsv:csv> element with the Key Data Interface of [[RFC5910](#)]:


```
<csvDomain:contents>
...
  <rdeCsv:csv name="dnssec">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvDomain:fMaxSigLife/>
      <csvDomain:fFlags/>
      <csvDomain:fProtocol/>
      <csvDomain:fKeyAlg/>
      <csvDomain:fPubKey/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        dnssec-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding dnssec-YYYYMMDD.csv file. The file contains two key records for domain1.test.

```
domain1.test,604800,257,3,1,AQPJ////4Q==
domain1.test,604800,257,3,1,AQPJ////4QQQ
```

Example of a "dnssec" <csvDomain:deletes> <rdeCsv:csv> element with the DS Data Interface of [RFC5910](#):


```
...
<csvDomain:deletes>
...
  <rdeCsv:csv name="dnssec">
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvDomain:fKeyTag/>
      <csvDomain:fDsAlg/>
      <csvDomain:fDigestType/>
      <csvDomain:fDigest/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        dnssec-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding dnssec-delete-YYYYMMDD.csv file. The file contains two DS records for domain1.test.

```
domain1.test,12345,3,1,49FD46E6C4B45C55D4AC
domain1.test,12346,3,1,38EC35D5B3A34B44C39B
```

Example of a "dnssec" <csvDomain:deletes> <rdeCsv:csv> element with the Key Data Interface of [[RFC5910](#)]:


```
...
<csvDomain:deletes>
...
  <rdeCsv:csv name="dnssec">
    <rdeCsv:fields>
      <csvDomain:fName/>
      <csvDomain:fFlags/>
      <csvDomain:fProtocol/>
      <csvDomain:fKeyAlg/>
      <csvDomain:fPubKey/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        dnssec-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding dnssec-delete-YYYYMMDD.csv file. The file contains two key records for domain1.test.

```
domain1.test,257,3,1,AQPJ////4Q==
domain1.test,257,3,1,AQPJ////4QQQ
```

"domainTransfer" Defines the fields and CSV file references used for the domain name object pending and completed transfer records. No additional field elements were added for use in the "domainTransfer" <rdeCsv:csv> <rdeCsv:fields> element. The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "domainTransfer" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fTrStatus> State of the most recent transfer request.

<rdeCsv:fReRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that requested the transfer.

<rdeCsv:fReID> Identifier of client that requested the transfer.

<rdeCsv:fReDate> Date and time that the transfer was requested.

<rdeCsv:fAcRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that should take or took action.

<rdeCsv:fAcID> Identifier of client that should take or took action for transfer.

<rdeCsv:fAcDate> Date and time that the transfer action should be taken or has been taken.

<rdeCsv:fExDate> Expiration date if the transfer command caused or causes a change in the validity period.

The following "csvDomain" fields, defined for the "domain"

<rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "domainTransfer" <rdeCsv:csv> <rdeCsv:fields> element:

<csvDomain:fName> Domain name of the domain object involved in the transfer.

Example of a "domainTransfer" <csvDomain:contents> <rdeCsv:csv> element:


```
...
<csvDomain:contents>
...
  <rdeCsv:csv name="domainTransfer">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvDomain:fName/>
      <rdeCsv:fTrStatus/>
      <rdeCsv:fReRr/>
      <rdeCsv:fReID/>
      <rdeCsv:fReDate/>
      <rdeCsv:fAcRr/>
      <rdeCsv:fAcID/>
      <rdeCsv:fAcDate/>
      <rdeCsv:fExDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainTransfer-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:contents>
...
```

Example of the corresponding domainTransfer-YYYYMMDD.csv file.
The file contains two domain transfer records, with one in pending status and the second in clientApproved status.

```
domain1.test,pending,registrarX,clientY,
2011-03-08T19:38:00.0Z,registrarY,,2011-03-13T23:59:59.0Z,
2016-04-03T22:00:00.0Z
domain2.test,clientApproved,registrarX,clientY,
2012-03-08T19:38:00.0Z,registrarY,clientY,
2012-03-09T23:59:59.0Z,2016-05-04T23:00:00.0Z
```

Example of a "domainTransfer" <csvDomain:deletes> <rdeCsv:csv> element:


```
...
<csvDomain:deletes>
...
  <rdeCsv:csv name="domainTransfer">
    <rdeCsv:fields>
      <csvDomain:fName/>
      <rdeCsv:fReDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        domainTransfer-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvDomain:deletes>
...
```

Example of the corresponding domainTransfer-delete-YYYYMMDD.csv file. The file contains two domain transfer records.

```
domain1.test,2011-03-08T19:38:00.0Z
domain2.test,2012-03-08T19:38:00.0Z
```

4.2. Host Object

The host object is based on the EPP host mapping in [[RFC5732](#)]. The elements used for Host Object is defined in this section. The <csvHost:contents> child element of the <rde:contents> element is used to hold the new or updated host objects for the deposit. The <csvHost:deletes> child element of the <rde:deletes> element is used to hold the deleted or purged host objects for the deposit. Both the <csvHost:contents> and <csvHost:deletes> elements contain one or more <rdeCsv:csv> elements with the following supported "name" attribute values:

"host" Defines the fields and CSV file references used for the host object records. The following field elements were added for use in the "host" <rdeCsv:csv> <rdeCsv:fields> element:

<csvHost:fName> Host name field with type="eppcom:labelType" and isRequired="true".

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "host" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fRoid> Repository Object Identifier (ROID) assigned to the host object. The <rdeCsv:fRoid> uniquely identifies the host object that MAY be used in place of the <csvHost:fName> field element to uniquely identify the host object when the <csvHost:fName> is not unique due to the server supporting the <domain:hostAttr> model of [\[RFC5731\]](#) or when the server supports a set of external hosts per sponsoring client.

<rdeCsv:fClID> Identifier of the sponsoring client. In the case of external hosts, the server MAY create a unique set of external hosts for each sponsoring client, so the <csvHost:fName> itself won't be unique but instead the combination of the <rdeCsv:fClID> and the <csvHost:fName> is unique.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that created the host object.

<rdeCsv:fCrDate> Date and time that the host object was created.

<rdeCsv:fUpRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that updated the object.

<rdeCsv:fUpID> Identifier of client that last updated the host object.

<rdeCsv:fUpDate> Date and time that the host object was last updated.

<rdeCsv:fTrDate> Date and time that the host was last transferred.

Example of a "host" <csvHost:contents> <rdeCsv:csv> element:


```

...
<csvHost:contents>
...
  <rdeCsv:csv name="host">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvHost:fName/>
      <rdeCsv:fRoid/>
      <rdeCsv:fClID/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
      <rdeCsv:fUpRr/>
      <rdeCsv:fUpID/>
      <rdeCsv:fUpDate/>
      <rdeCsv:fTrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1410255126 216">
        host-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:contents>
...

```

Example of the corresponding host-YYYYMMDD.csv file. The file contains two host records with one being an internal host and the second being an external host.

```

ns1.example.test,Hns1_example_test-TEST,registrarX,registrarX,
clientY,1999-05-08T12:10:00.0Z,registrarX,
clientY,2009-10-03T09:34:00.0Z,2007-01-08T09:19:00.0Z
ns1.example.test2,Hns1_example_test2-TEST,clientY,
clientX,2009-05-08T12:10:00.0Z,clientX,
2010-10-03T09:34:00.0Z,

```

Example of a "host" <csvHost:deletes> <rdeCsv:csv> element:


```
...
<csvHost:deletes>
...
  <rdeCsv:csv name="host">
    <rdeCsv:fields>
      <csvHost:fName/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        host-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:deletes>
...
```

Example of the host-delete-YYYYMMDD.csv file. The file contains two host records.

```
ns1.example.test
ns1.example.test2
```

"hostStatuses" Defines the fields and CSV file references used for the host object statuses.

The following "csvHost" fields, defined for the "host" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "hostStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvHost:fName> Host name of status.

<csvHost:fStatus> The status of the host with type="host:statusValueType"/>.

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "hostStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fRoid> Host object Registry Object Identifier (ROID) that uniquely identifies the host object when the <csvHost:fName> is not unique. The <rdeCsv:fRoid> is used for servers that support a set of external host objects per sponsoring client.

<rdeCsv:fStatusDescription> Host object status description which is free form text describing the rationale for the status.

<rdeCsv:fLanguage> Language of the <rdeCsv:fStatusDescription> field.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that set the status for the host object.

<rdeCsv:fCrDate> Date and time that the status was set for the host object.

Example of a "hostStatuses" <csvHost:contents> <rdeCsv:csv> element:

```
...
<csvHost:contents>
...
  <rdeCsv:csv name="hostStatuses">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvHost:fName/>
      <csvHost:fStatus/>
      <rdeCsv:fStatusDescription/>
      <rdeCsv:fLanguage/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        hostStatuses-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:contents>
```


...

Example of the corresponding hostStatuses-YYYYMMDD.csv file. The file contains the statuses for the two host names ns1.domain1.test and ns1.domain2.test.

```
ns1.domain1.test,clientUpdateProhibited,"Disallow update",
en,registrarX,clientY,2009-12-03T09:05:00.0Z
ns1.domain1.test,clientDeleteProhibited,"Disallow delete",
en,registrarX,clientY,2010-12-04T10:05:00.0Z
ns1.domain2.test,ok,,,registrarX,clientY,2011-10-03T09:05:00.0Z
```

Example of a "hostStatuses" <csvHost:deletes> <rdeCsv:csv> element:

```
...
<csvHost:deletes>
...
<rdeCsv:csv name="hostStatuses">
  <rdeCsv:fields>
    <csvHost:fName/>
    <csvHost:fStatus/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      hostStatuses-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvHost:deletes>
...
```

Example of the corresponding hostStatuses-delete-YYYYMMDD.csv file. The file contains two status records.

```
ns1.domain1.test,clientUpdateProhibited
ns1.domain1.test,clientDeleteProhibited
```


"hostAddresses" Defines the fields and CSV file references used for the host object IP addresses. The following field elements were added for use in the "hostAddresses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvHost:fAddr> IP addresses associated with the host object with type="host:addrStringType".

<csvHost:fAddrVersion> IP addresses version associated with the host object with type="host:ipType". "host:ipType" has the enumerated values of "v4" or "v6".

The following "csvHost" fields, defined for the "host" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "hostAddresses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvHost:fName> Host name of IP address.

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "hostAddresses" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fRoid> Host object Registry Object Identifier (ROID) that uniquely identifies the host object when the <csvHost:fName> is not unique. The <rdeCsv:fRoid> is used for servers that supports a set of external host objects per sponsoring client or when the server supports the <domain:hostAttr> model of [\[RFC5731\]](#).

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that set the address for the host object.

<rdeCsv:fCrDate> Date and time that the address was set for the host object.

Example of a "hostAddresses" <csvHost:contents> <rdeCsv:csv> element for server that supports the <domain:hostObj> model of [\[RFC5731\]](#).

```
...
<csvHost:contents>
...
  <rdeCsv:csv name="hostAddresses">
    <rdeCsv:sep>, </rdeCsv:sep>
    <rdeCsv:fields>
      <csvHost:fName/>
      <csvHost:fAddr/>
      <csvHost:fAddrVersion/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        hostAddressesObj-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:contents>
...
```

Example of the corresponding hostAddressesObj-YYYYMMDD.csv file. The file contains the IP addresses for the host name ns1.domain1.test.

```
ns1.domain1.test,192.0.2.2,v4,registrarX,
clientY,2009-12-03T09:05:00.0Z
ns1.domain1.test,192.0.2.29,v4,registrarX,
clientY,2009-12-03T09:05:00.0Z
ns1.domain1.test,1080:0:0:0:8:800:200C:417A,
v6,clientX,2009-12-03T09:05:00.0Z
```

Example of a "hostAddresses" <csvHost:deletes> <rdeCsv:csv> element:


```
...
<csvHost:deletes>
...
<rdeCsv:csv name="hostAddresses">
  <rdeCsv:fields>
    <csvHost:fName/>
    <csvHost:fAddr/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      hostAddressesObj-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvHost:deletes>
...
```

Example of the corresponding hostAddressesObj-delete-YYYYMMDD.csv file. The file contains three IP address records.

```
ns1.domain1.test,192.0.2.2
ns1.domain1.test,192.0.2.29
ns1.domain1.test,1080:0:0:0:8:800:200C:417A
```

Example of a "hostAddresses" <csvHost:contents> <rdeCsv:csv> element for server that supports the <domain:hostAttr> model of [\[RFC5731\]](#).


```
...
<csvHost:contents>
...
  <rdeCsv:csv name="hostAddresses">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <rdeCsv:fRoid/>
      <csvHost:fAddr/>
      <csvHost:fAddrVersion/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        hostAddressesAttr-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:contents>
...
```

Example of the corresponding hostAddressesAttr-YYYYMMDD.csv file.
The file contains the IP addresses for the host name
ns1.domain1.test.

```
Dns1.domain1.test-TEST,192.0.2.2,v4,registrarX,
clientY,2009-12-03T09:05:00.0Z
Dns1.domain1.test-TEST,192.0.2.29,v4,registrarX,
clientY,2009-12-03T09:05:00.0Z
Dns1.domain1.test-TEST,1080:0:0:0:8:800:200C:417A,
v6,clientX,2009-12-03T09:05:00.0Z
```

Example of a "hostAddresses" <csvHost:deletes> <rdeCsv:csv>
element:


```
...
<csvHost:deletes>
...
  <rdeCsv:csv name="hostAddresses">
    <rdeCsv:fields>
      <rdeCsv:fRoid/>
      <csvHost:fAddr/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        hostAddressesAttr-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvHost:deletes>
...
```

Example of the corresponding hostAddressesAttr-delete-YYYYMMDD.csv file. The file contains three IP address records.

```
Dns1.domain1.test-TEST,192.0.2.2
Dns1.domain1.test-TEST,192.0.2.29
Dns1.domain1.test-TEST,1080:0:0:0:8:800:200C:417A
```

4.3. Contact Object

The contact object is based on the EPP contact mapping in [\[RFC5733\]](#). The elements used for the Contact Object are defined in this section. The <csvContact:contents> child element of the <rde:contents> element is used to hold the new or updated contact objects for the deposit. The <csvContact:deletes> child element of the <rde:deletes> element is used to hold the deleted or purged contact objects for the deposit. Both the <csvContact:contents> and <csvContact:deletes> elements contain one or more <rdeCsv:csv> elements with the following supported "name" attribute values:

"contact" Defines the fields and CSV file references used for the contact object records. The following field elements were added for use in the "contact" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fId> Contains the server-unique contact identifier with type="eppcom:clIDType" and isRequired="true".

<csvContact:fVoice> Contains the contact's voice telephone number with type="contact:e164StringType".

<csvContact:fVoiceExt> Contains the contact's voice telephone number extension with type="token".

<csvContact:fFax> Contains the contact's facsimile telephone number with type="contact:e164StringType".

<csvContact:fFaxExt> Contains the contact's facsimile telephone number extension with type="token".

<csvContact:fEmail> Contains the contact's email address with type="eppcom:minTokenType" and isRequired="true".

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "contact" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fRoid> The Registry Object Identifier (ROID) for the contact object.

<rdeCsv:fClID> Identifier of client (registrar) that sponsors the contact object.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that created the contact object.

<rdeCsv:fCrDate> Created date and time of the contact object

<rdeCsv:fUpRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that updated the object.

<rdeCsv:fUpID> Identifier of the client that last updated the contact object.

<rdeCsv:fUpDate> Date and time of the last update to the contact object.

<rdeCsv:fTrDate> Date and time of the last transfer for the contact object.

Example of a "contact" <csvContact:contacts> <rdeCsv:csv> element:

```
...
<csvContact:contents>
...
<rdeCsv:csv name="contact">
  <rdeCsv:sep>, </rdeCsv:sep>
  <rdeCsv:fields>
    <csvContact:fId/>
    <rdeCsv:fRoid/>
    <csvContact:fVoice/>
    <csvContact:fVoiceExt/>
    <csvContact:fFax/>
    <csvContact:fFaxExt/>
    <csvContact:fEmail/>
    <rdeCsv:fClID/>
    <rdeCsv:fCrRr/>
    <rdeCsv:fCrID/>
    <rdeCsv:fCrDate/>
    <rdeCsv:fUpRr/>
    <rdeCsv:fUpID/>
    <rdeCsv:fUpDate/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1410255126 216">
      contact-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvContact:contents>
...
```

Example of the contact-YYYYMMDD.csv file. The file contains two object contact records.


```
sh8013,Csh8013-TEST,+1.7035555555,1234,+1.7035555556,,
jdoe@example.test,registrarX,registrarX,
clientY,2009-09-13T08:01:00.0Z,registrarX,clientY,
2009-11-26T09:10:00.0Z
mycontactid,Cmycontactid-TEST,+1.7034444444,1234,
+1.7033333333,,jsmith@example.test,registrarX,registrarX,clientY,
2010-09-13T08:01:00.0Z,registrarX,clientY,2011-11-26T09:10:00.0Z
```

Example of a "contact" <csvContact:deletes> <rdeCsv:csv> element:

```
...
<csvContact:deletes>
...
  <rdeCsv:csv name="contact">
    <rdeCsv:fields>
      <csvContact:fId/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1410255126 216">
        contact-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:deletes>
...
```

Example of the contact-delete-YYYYMMDD.csv file. The file contains two contact records.

```
sh8013
mycontactid
```

"contactStatuses" Defines the fields and CSV file references used for the contact object statuses.

The following "csvContact" fields, defined for the "contact" <rdeCsv:csv> <rdeCsv:fields> element, MAY be used in the "contactStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fId> Server-unique contact identifier of status.

<csvContact:fStatus> The status of the contact with
type="contact:statusValueType".

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "contactStatuses" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fStatusDescription> The contact object status description which is free form text describing the rationale for the status.

<rdeCsv:fLanguage> Language of the <rdeCsv:fStatusDescription> field.

<rdeCsv:fCrRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that created the object.

<rdeCsv:fCrID> Identifier of client that set the status for the contact object.

<rdeCsv:fCrDate> The date and time that the status was set for the contact object.

Example of a "contactStatuses" <csvContact:contents> <rdeCsv:csv> element:


```

...
<csvContact:contents>
...
  <rdeCsv:csv name="contactStatuses">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <csvContact:fStatus/>
      <rdeCsv:fStatusDescription/>
      <rdeCsv:fLanguage/>
      <rdeCsv:fCrRr/>
      <rdeCsv:fCrID/>
      <rdeCsv:fCrDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactStatuses-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:contents>
...

```

Example of the corresponding contactStatuses-YYYYMMDD.csv file. The file contains the statuses for the two contact identifiers sh8013 and mycontactid.

```

sh8013,clientUpdateProhibited,"Disallow update",
en,registrarX,clientY,2009-12-03T09:05:00.0Z
sh8013,clientDeleteProhibited,"Disallow delete",
en,registrarX,clientY,2010-12-04T10:05:00.0Z
mycontactid,ok,,,registrarX,clientY,2011-10-03T09:05:00.0Z

```

Example of a "contactStatuses" <csvContact:deletes> <rdeCsv:csv> element:


```
...
<csvContact:deletes>
...
<rdeCsv:csv name="contactStatuses">
  <rdeCsv:fields>
    <csvContact:fId/>
    <csvContact:fStatus/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1234567890 987654">
      contactStatuses-delete-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvContact:deletes>
...
```

Example of the corresponding contactStatuses-delete-YYYYMMDD.csv file. The file contains two status records.

```
sh8013,clientUpdateProhibited
sh8013,clientDeleteProhibited
```

"contactPostal" Defines the fields and CSV file references used for the contact postal info object records. The following field elements were added for use in the "contactPostal" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fPostalType> Contains the form of the postal-address information with type="contact:postalLineType". This field specifies the form ("int" or "loc"), as defined in [Section 3.4](#), of the <csvContact:fName>, <csvContact:fOrg>, <csvContact:fStreet>, <csvContact:fCity>, <csvContact:fSp>, <csvContact:fPc>, <csvContact:fCc> fields.

<csvContact:fName> Contains the contact's name of the individual or role represented by the contact with type="contact:postalLineType" and isRequired="true". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fOrg> Contains the name of the organization with which the contact is affiliated with type="contact:optPostalLineType". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fStreet> Contains the contact's contact's street address line with type="contact:fPostalLineType". An index attribute is required to indicate which street address line the field represents with index "0" for the first line and index "2" for the last line. An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fCity> Contains the contact's city with type="contact:postalLineType" and isRequired="true". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fSp> Contains the contact's state or province with type="contact:optPostalLineType". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fPc> Contains the contact's postal code with type="contact:pcType". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

<csvContact:fCc> Contains the contact's country code with type="contact:ccType". An OPTIONAL "isLoc" attribute to used to indicate the localized or internationalized form as defined in section [Section 3.4](#).

The following "csvContact" fields, defined for the "contact" <rdeCsv:csv> <rdeCsv:fields> element, is used in the "contactPostal" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fId> Server-unique contact identifier for the contact object.

Example of a "contactPostal" <csvContact:contents> <rdeCsv:csv> element:


```
...
<csvContact:contents>
...
  <rdeCsv:csv name="contactPostal">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <csvContact:fPostalType/>
      <csvContact:fName/>
      <csvContact:fOrg/>
      <csvContact:fStreet index="0"/>
      <csvContact:fStreet index="1"/>
      <csvContact:fStreet index="2"/>
      <csvContact:fCity/>
      <csvContact:fSp/>
      <csvContact:fPc/>
      <csvContact:fCc/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactPostal-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:contents>
...
```

Example of the contactPostal-YYYYMMDD.csv file. The file contains two contact postal records.

```
sh8013,int,"John Doe","Example Inc.",
"123 Example Dr.,"Suite 100",,Reston,VA,20190,US
mycontactid,int,"John Smith","Acme Inc.",
"123 Sample Dr.",,,Reston,VA,20190,US
```

Example of a "contactPostal" <csvContact:deletes> <rdeCsv:csv> element:


```
...
<csvContact:deletes>
...
  <rdeCsv:csv name="contactPostal">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <csvContact:fPostalType/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactPostal-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:deletes>
...
```

Example of the contactPostal-delete-YYYYMMDD.csv file. The file contains two contact postal records.

```
sh8013,int
mycontactid,int
```

"contactTransfer" Defines the fields and CSV file references used for the contact object pending and completed transfer records. No additional field elements were added for use in the "contactTransfer" <rdeCsv:csv> <rdeCsv:fields> element. The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "contactTransfer" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fTrStatus> State of the most recent transfer request.

<rdeCsv:fReRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that requested the transfer.

<rdeCsv:fReID> Identifier of client that requested the transfer.

<rdeCsv:fReDate> Date and time that the transfer was requested.

<rdeCsv:fAcRr> Identifier of the registrar, defined in [Section 4.4](#), of the client that should take or took action.

<rdeCsv:fAcID> Identifier of client that should take or took action for transfer.

<rdeCsv:fAcDate> Date and time that the transfer action should be taken or has been taken

The following "csvContact" fields, defined for the "contact" <rdeCsv:csv> <rdeCsv:fields> element, is used in the "contactTransfer" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fId> Server-unique contact identifier for the contact object.

Example of a "contactTransfer" <csvContact:contents> <rdeCsv:csv> element:


```
...
<csvContact:contents>
...
  <rdeCsv:csv name="contactTransfer">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <rdeCsv:fTrStatus/>
      <rdeCsv:fReRr/>
      <rdeCsv:fReID/>
      <rdeCsv:fReDate/>
      <rdeCsv:fAcRr/>
      <rdeCsv:fAcID/>
      <rdeCsv:fAcDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactTransfer-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:contents>
...
```

Example of the contactTransfer-YYYYMMDD.csv file. The file contains two contact transfer records with one in pending status and the second in clientApproved status.

```
sh8013,pending,registrarX,clientX,2011-03-08T19:38:00.0Z,
registrarY,,2011-03-13T23:59:59.0Z
mycontactid,clientApproved,registrarX,clientX,2011-04-08T19:38:00.0Z,
registrarY,clientY,2011-04-09T20:38:00.0Z
```

Example of a "contactTransfer" <csvContact:deletes> <rdeCsv:csv> element:


```
...
<csvContact:deletes>
...
  <rdeCsv:csv name="contactTransfer">
    <rdeCsv:fields>
      <csvContact:fId/>
      <rdeCsv:fReDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactTransfer-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:deletes>
...
```

Example of the contactTransfer-delete-YYYYMMDD.csv file. The file contains two contact transfer records.

```
sh8013,2011-03-08T19:38:00.0Z
mycontactid,2011-04-08T19:38:00.0Z
```

"contactDisclose" Defines the fields and CSV file references used for the contact disclose object records. The following field elements were added for use in the "contactDisclose" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fDiscloseFlag> Contains flag with a value of "true" or "1" (one) notes the preference to allow disclosure of the specified elements as an exception to the stated data-collection policy. A value of "false" or "0" (zero) notes a client preference to not allow disclosure of the specified elements as an exception to the stated data-collection policy with type="boolean". The additional fields define specific exceptional disclosure preferences based on the <csvContact:fDiscloseFlag> field.

<csvContact:fDiscloseNameLoc> Exceptional disclosure preference flag for the localized form of the contact name with type="boolean".

- <csvContact:fDiscloseNameInt> Exceptional disclosure preference flag for the internationalized form of the contact name with type="boolean".
- <csvContact:fDiscloseOrgLoc> Exceptional disclosure preference flag for the localized form of the contact organization with type="boolean". with type="boolean".
- <csvContact:fDiscloseOrgInt> Exceptional disclosure preference flag for the internationalized form of the contact organization with type="boolean". with type="boolean".
- <csvContact:fDiscloseAddrLoc> Exceptional disclosure preference flag for the localized form of the contact address with type="boolean".
- <csvContact:fDiscloseAddrInt> Exceptional disclosure preference flag for the internationalized form of the contact address with type="boolean".
- <csvContact:fDiscloseVoice> Exceptional disclosure preference flag of the contact voice telephone number with type="boolean".
- <csvContact:fDiscloseFax> Exceptional disclosure preference flag of the contact facsimile telephone number with type="boolean".
- <csvContact:fDiscloseEmail> Exceptional disclosure preference flag of the contact email address with type="boolean".

The following "csvContact" fields, defined for the "contact" <rdeCsv:csv> <rdeCsv:fields> element, is used in the "contactDisclose" <rdeCsv:csv> <rdeCsv:fields> element:

- <csvContact:fId> Server-unique contact identifier for the contact object.

Example of a "contactDisclose" <csvContact:contents> <rdeCsv:csv> element:


```

...
<csvContact:contents>
...
  <rdeCsv:csv name="contactDisclose">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvContact:fId/>
      <csvContact:fDiscloseFlag/>
      <csvContact:fDiscloseNameLoc/>
      <csvContact:fDiscloseNameInt/>
      <csvContact:fDiscloseOrgLoc/>
      <csvContact:fDiscloseOrgInt/>
      <csvContact:fDiscloseAddrLoc/>
      <csvContact:fDiscloseAddrInt/>
      <csvContact:fDiscloseVoice/>
      <csvContact:fDiscloseFax/>
      <csvContact:fDiscloseEmail/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactDisclose-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:contents>
...

```

Example of the contactDisclose-YYYYMMDD.csv file. The file contains two disclosure records. The first contact disables disclosure of voice, fax, and email. The second contact enables disclosure of the localized and internationalized form of the name.

```

sh8013,0,0,0,0,0,0,0,0,1,1,1
mycontactid,1,1,1,0,0,0,0,0,0,0,0

```

Example of a "contactDisclose" <csvContact:deletes> <rdeCsv:csv> element:


```
...
<csvContact:deletes>
...
  <rdeCsv:csv name="contactDisclose">
    <rdeCsv:fields>
      <csvContact:fId/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1234567890 987654">
        contactDisclose-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvContact:deletes>
...
```

Example of the contactDisclose-delete-YYYYMMDD.csv file. The file contains two disclosure records.

```
sh8013
mycontactid
```

4.4. Registrar Object

The registrar object represents the sponsoring client for objects and the organization for clients that create and update objects. A registrar object MAY include the server (registry) itself to reference objects created and updated by the server. The elements used for the Registrar Object references are defined in this section. The <csvRegistrar:contents> child element of the <rde:contents> element is used to hold the new or updated registrar objects for the deposit. The <csvRegistrar:deletes> child element of the <rde:deletes> element is used to hold the deleted or purged registrar objects for the deposit. Both the <csvRegistrar:contents> and <csvRegistrar:deletes> elements contain one or more <rdeCsv:csv> elements with the following supported "name" attribute values:

"registrar" Defines the fields and CSV file references used for the registrar object records. The following field elements were added for use in the "registrar" <rdeCsv:csv> <rdeCsv:fields> element:

<csvRegistrar:fId> Contains the server-unique registrar identifier with type="eppcom:clIDType" and isRequired="true".

<csvRegistrar:fName> Contains the name of the registrar with type="normalizedString" and isRequired="true".

<csvRegistrar:fGurid> Contains the ID assigned by ICANN with type="positiveInteger".

<csvRegistrar:fStatus> Contains the status of the registrar with type="csvRegistrar:statusValueType".

<csvRegistrar:fWhoisUrl> Contains the Whois URL of the registrar with type="anyURI".

The following "rdeCsv" fields, defined in section CSV common field elements ([Section 3.6.2](#)), MAY be used in the "registrar" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fRoid> Registry Object Identifier (ROID) for the registrar object.

<rdeCsv:fCrDate> Created date and time of the registrar object.

<rdeCsv:fUpDate> Date and time of the last update to the registrar object.

<rdeCsv:fUrl> URL for the registrar web home page.

The following "csvContact" fields, defined in section [Section 4.3](#), MAY be used in the "registrar" <rdeCsv:csv> <rdeCsv:fields> element:

<csvContact:fStreet> Registrar street address line with an "index" attribute that represents the order of the street address line from "0" to "2". An OPTIONAL "isLoc" attribute that is used to indicate the localized or internationalized form, as defined in [Section 3.4](#).

<csvContact:fCity> Registrar city with an OPTIONAL "isLoc" attribute that is used to indicate the localized or internationalized form, as defined in [Section 3.4](#).

<csvContact:fSp> Registrar state or province with an OPTIONAL "isLoc" attribute that is used to indicate the localized or internationalized form, as defined in [Section 3.4](#).

<csvContact:fPc> Registrar postal code with an OPTIONAL "isLoc" attribute that is used to indicate the localized or internationalized form, as defined in [Section 3.4](#).

<csvContact:fCc> Registrar country code with an OPTIONAL "isLoc" attribute that is used to indicate the localized or internationalized form, as defined in [Section 3.4](#).

<csvContact:fVoice> Registrar voice telephone number.

<csvContact:fVoiceExt> Registrar voice telephone number extension.

<csvContact:fFax> Registrar facsimile telephone number.

<csvContact:fFaxExt> Registrar facsimile telephone number extension.

<csvContact:fEmail> Registrar email address.

Example of a "registrar" <csvRegistrar:contents> <rdeCsv:csv> element.


```
...
<csvRegistrar:contents>
...
  <rdeCsv:csv name="registrar">
    <rdeCsv:sep>,</rdeCsv:sep>
    <rdeCsv:fields>
      <csvRegistrar:fId/>
      <rdeCsv:fRoid/>
      <csvRegistrar:fName isLoc="false"/>
      <csvRegistrar:fGurid/>
      <csvRegistrar:fStatus/>
      <csvContact:fStreet isLoc="false" index="0"/>
      <csvContact:fStreet isLoc="false" index="1"/>
      <csvContact:fStreet isLoc="false" index="2"/>
      <csvContact:fCity isLoc="false" />
      <csvContact:fSp isLoc="false" />
      <csvContact:fPc isLoc="false" />
      <csvContact:fCc isLoc="false" />
      <csvContact:fVoice/>
      <csvContact:fVoiceExt/>
      <csvContact:fFax/>
      <csvContact:fFaxExt/>
      <csvContact:fEmail/>
      <rdeCsv:fUrl/>
      <csvRegistrar:fWhoisUrl/>
      <rdeCsv:fCrDate/>
      <rdeCsv:fUpDate/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1924040625 268">
        registrar-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvRegistrar:contents>
...
```

Example of the registrar-YYYYMMDD.csv file. The file contains one registrar record.

```
EXAMPLE,REGISTRAR123-TEST,"Example Inc.",1234,ok,"123 Example Dr.",
"Suite 100",,Dulles,VA,20166-6503,US,+1.7035555555,1234,
+1.7035555556,,jdoe@example.test,http://www.example.test,
http://whois.example.test,2005-04-23T11:49:00.0Z,
```


2009-02-17T17:51:00.0Z

Example of a "registrar" <csvRegistrar:deletes> <rdeCsv:csv> element:

```
...
<csvRegistrar:deletes>
...
  <rdeCsv:csv name="registrar">
    <rdeCsv:fields>
      <csvRegistrar:fId/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1924040625 268">
        registrar-delete-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvRegistrar:deletes>
...
```

Example of the registrar-delete-YYYYMMDD.csv file. The file contains two registrar records.

EXAMPLE
EXAMPLE2

4.5. IDN Language Object

The IDN domain names, defined in [Section 4.1](#), MAY have references to the IDN language using the <rdeCsv:fLanguage> field element. The IDN language object defines the mapping of a language to a language table URL. The language table URL defines the character code points that can be used for the language. The elements used for the IDN language object is defined in this section. The <csvIDN:contents> child element of the <rde:contents> element is used to hold the new or updated IDN language objects for the deposit. The <csvIDN:deletes> child element of the <rde:deletes> element is used to hold the deleted or purged IDN language objects for the deposit. Both the <csvIDN:contents> and <csvIDN:deletes> elements contain one or more <rdeCsv:csv> elements with the following supported "name" attribute values:

"idnLanguage" Defines the fields and CSV file references used for the IDN language object records.

The following "rdeCsv" fields, defined in [Section 3.6.2](#), MAY be used in the "idnLanguage" <rdeCsv:csv> <rdeCsv:fields> element:

<rdeCsv:fLanguage> The language tag that matches the values for the <rdeCsv:fLanguage> field element in the "domain" CSV files, as defined in [Section 4.1](#).

<rdeCsv:fUrl> URL that defines the character code points that can be used for the language defined by the <rdeCsv:fLanguage> field element.

Example of a "idnLanguage" <csvIDN:contents> <rdeCsv:csv> element:

```
...
<csvIDN:contents>
...
<rdeCsv:csv name="idnLanguage">
  <rdeCsv:sep>,</rdeCsv:sep>
  <rdeCsv:fields>
    <rdeCsv:fLanguage/>
    <rdeCsv:fUrl/>
  </rdeCsv:fields>
  <rdeCsv:files>
    <rdeCsv:file
      cksum="1924040625 268">
      idnLanguage-YYYYMMDD.csv
    </rdeCsv:file>
  </rdeCsv:files>
</rdeCsv:csv>
...
</csvIDN:contents>
...
```

Example of the corresponding idnLanguage-YYYYMMDD.csv file. The file contains two IDN language records.

```
LANG-1,
http://www.iana.org/domains/idn-tables/tables/test\_tab1\_1.1.txt
LANG-2,
```


http://www.iana.org/domains/idn-tables/tables/test_tab2_1.1.txt

Example of a "idnLanguage" <csvIDN:deletes> <rdeCsv:csv> element:

```
...
<csvIDN:deletes>
...
  <rdeCsv:csv name="idnLanguage">
    <rdeCsv:fields>
      <rdeCsv:fLanguage/>
    </rdeCsv:fields>
    <rdeCsv:files>
      <rdeCsv:file
        cksum="1924040625 268">
        idnLanguage-YYYYMMDD.csv
      </rdeCsv:file>
    </rdeCsv:files>
  </rdeCsv:csv>
...
</csvIDN:deletes>
...
```

Example of the idnLanguage-delete-YYYYMMDD.csv file. The file contains two IDN language records.

```
LANG1
LANG2
```

5. Formal Syntax

Six schemas are presented here. The first schema is the base CSV schema. The second schema defines domain name CSV object for RDE. The third schema defines host CSV object for RDE. The fourth schema defines contact CSV object for RDE. The fifth schema defines registrar CSV object for RDE. The sixth schema defines the IDN language CSV object.

5.1. RDE CSV Schema

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>

<schema targetNamespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <!--
  Import common element types
  -->
  <import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
    schemaLocation="eppcom-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rde-1.0"
    schemaLocation="rde-1.0.xsd"/>

  <annotation>
    <documentation>
```



```
Registry Data Escrow Comma-Seperated Values (CSV)
</documentation>
</annotation>
```

```
<!-- csv content element -->
<element name="csv" type="rdeCsv:csvType"/>
```

```
<!-- Definition of CSV file -->
<complexType name="csvType">
  <sequence>
    <element name="sep" type="token" default=","
      minOccurs="0"/>
    <element name="fields" type="rdeCsv:fieldsType"/>
    <element name="files" type="rdeCsv:filesType"/>
  </sequence>
  <attribute name="name" type="token" use="required"/>
</complexType>
```

```
<!-- Abstract field type -->
<element name="field" type="rdeCsv:fieldType"
  abstract="true"/>
```

```
<complexType name="fieldType">
  <sequence/>
</complexType>
```

```
<!-- fieldType with optional value (isRequired=false) -->
<complexType name="fieldOptionalType">
  <complexContent>
    <extension base="rdeCsv:fieldType">
      <sequence/>
      <attribute name="isRequired" type="boolean"
        default="false"/>
    </extension>
  </complexContent>
</complexType>
```

```
<!-- fieldType with required value (isRequired=true) -->
<complexType name="fieldRequiredType">
  <complexContent>
    <extension base="rdeCsv:fieldType">
      <sequence/>
      <attribute name="isRequired" type="boolean"
        default="true"/>
    </extension>
  </complexContent>
```



```
</complexType>

<!-- Concrete field types -->

<!-- UTF-8 Name field (e.g. domain name) -->
<element name="fUName" type="rdeCsv:fNameType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fNameType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:labelType"/>
    </extension>
  </complexContent>
</complexType>
<complexType name="fNameRequiredType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:labelType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Registry Object IDentifier (roid) field -->
<element name="fRoid" type="rdeCsv:fRoidType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fRoidType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:roidType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Registrant field -->
<element name="fRegistrant" type="rdeCsv:fRegistrantType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fRegistrantType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
```



```
        <attribute name="type" type="token"
            default="eppcom\:clIDType"/>
    </extension>
</complexContent>
</complexType>

<!-- Object Status Description -->
<element name="fStatusDescription"
    type="rdeCsv:fNormalizedStringType"
    substitutionGroup="rdeCsv:field"/>

<!-- clID fields (fClID, fCrID, fUpID) -->
<!-- Identifier of client that sponsors the object -->
<element name="fClID" type="rdeCsv:fClIDRequiredType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of registrar of client
that created the object -->
<element name="fCrRr" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of client that created the object -->
<element name="fCrID" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of registrar of client that
updated the object -->
<element name="fUpRr" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of client that updated the object -->
<element name="fUpID" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of registrar of client that
requested the transfer -->
<element name="fReRr" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of client that requested
the transfer -->
<element name="fReID" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of registrar client that
should take or took action -->
<element name="fAcRr" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<!-- Identifier of client that should take or
took action -->
<element name="fAcID" type="rdeCsv:fClIDType"
    substitutionGroup="rdeCsv:field"/>
<complexType name="fClIDType">
    <complexContent>
        <extension base="rdeCsv:fieldOptionalType">
```



```
<sequence/>
  <attribute name="type" type="token"
    default="eppcom\:clIDType"/>
</extension>
</complexContent>
</complexType>
<complexType name="fClIDRequiredType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:clIDType"/>
    </extension>
  </complexContent>
</complexType>

<!-- dateTime fields (fCrDate, fUpDate, fExDate) -->
<element name="fCrDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<element name="fUpDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<element name="fExDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<!-- Date and time that transfer was requested -->
<element name="fReDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<!-- Date and time of a required or completed response -->
<element name="fAcDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<element name="fTrDate" type="rdeCsv:fDateTimeType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fDateTimeType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="dateTime"/>
    </extension>
  </complexContent>
</complexType>

<!-- boolean type -->
<complexType name="fBooleanType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"

```



```
        default="boolean"/>
    </extension>
</complexContent>
</complexType>

<!-- unsignedByte type -->
<complexType name="fUnsignedByteType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="unsignedByte"/>
    </extension>
  </complexContent>
</complexType>

<!-- unsignedShort type -->
<complexType name="fUnsignedShortType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="unsignedShort"/>
    </extension>
  </complexContent>
</complexType>

<!-- hexBinary type -->
<complexType name="fHexBinaryType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="hexBinary"/>
    </extension>
  </complexContent>
</complexType>

<!-- language type -->
<element name="fLanguage" type="rdeCsv:fLanguageType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fLanguageType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="language"/>
    </extension>
  </complexContent>
</complexType>
```



```
</extension>
</complexContent>
</complexType>

<!-- State of the most recent transfer request -->
<element name="fTrStatus" type="rdeCsv:fTrStatusType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fTrStatusType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:trStatusType"/>
    </extension>
  </complexContent>
</complexType>

<!-- General token type -->
<complexType name="fTokenType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="token"/>
    </extension>
  </complexContent>
</complexType>

<!-- General normalizedString type -->
<complexType name="fNormalizedStringType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="normalizedString"/>
    </extension>
  </complexContent>
</complexType>

<!-- positive integer type -->
<complexType name="fPositiveIntegerType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="positiveInteger"/>
    </extension>
  </complexContent>
</complexType>
```



```
</complexContent>
</complexType>

<!-- Custom / extension field type -->
<element name="fCustom" type="rdeCsv:fCustomType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fCustomType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="name" type="token"/>
      <attribute name="type" type="token"
        default="token"/>
    </extension>
  </complexContent>
</complexType>

<!-- Ordered list of field definitions for the csv -->
<complexType name="fieldsType">
  <sequence maxOccurs="unbounded">
    <element ref="rdeCsv:field"/>
  </sequence>
</complexType>

<!-- List of files -->
<complexType name="filesType">
  <sequence>
    <element name="file" type="rdeCsv:fileType"
      maxOccurs="unbounded"/>
  </sequence>
</complexType>

<!-- File definition -->
<complexType name="fileType">
  <simpleContent>
    <extension base="token">
      <attribute name="compression" type="token"/>
      <attribute name="encoding" type="token"
        default="UTF-8"/>
      <attribute name="cksum" type="token"/>
    </extension>
  </simpleContent>
</complexType>

<!-- URL fields -->
<element name="fUrl" type="rdeCsv:anyURIType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="anyURIType">
```



```
<complexContent>
  <extension base="rdeCsv:fieldOptionalType">
    <sequence/>
    <attribute name="type" type="token"
      default="anyURI"/>
  </extension>
</complexContent>
</complexType>

<!--
End of schema.
-->
</schema>
END
```

5.2. Domain Object

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>

<schema targetNamespace="urn:ietf:params:xml:ns:csvDomain-1.0"
  xmlns:csvDomain="urn:ietf:params:xml:ns:csvDomain-1.0"
  xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
  xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:rgp="urn:ietf:params:xml:ns:rgp-1.0"
  xmlns:secDNS="urn:ietf:params:xml:ns:secDNS-1.1"
  xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <!--
  Import common element types
  -->
  <import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
    schemaLocation="eppcom-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:domain-1.0"
    schemaLocation="domain-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:secDNS-1.1"
    schemaLocation="secDNS-1.1.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rgp-1.0"
    schemaLocation="rgp-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rde-1.0"
    schemaLocation="rde-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
    schemaLocation="rdeCsv-1.0.xsd"/>

  <annotation>
    <documentation>
      Domain Name Comma-Separated Values (CSV) Object
    </documentation>
  </annotation>

  <!--
  Child elements of the <rde:contents> object
  -->
  <element name="contents" type="csvDomain:contentType"
    substitutionGroup="rde:content"/>

  <complexType name="contentType">
    <complexContent>
      <extension base="rde:contentType">
        <sequence>
          <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</schema>
```



```
</extension>
</complexContent>
</complexType>

<!--
Child elements of the <rde:deletes> object
-->
<element name="deletes" type="csvDomain:deleteType"
substitutionGroup="rde:delete"/>

<complexType name="deleteType">
  <complexContent>
    <extension base="rde:deleteType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```

```
<!-- Domain name field -->
<element name="fName" type="rdeCsv:fNameRequiredType"
substitutionGroup="rdeCsv:field"/>
```

```
<!-- RGP status field -->
<element name="fRgpStatus"
type="csvDomain:fRgpStatusType"
substitutionGroup="rdeCsv:field"/>
<complexType name="fRgpStatusType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
default="rgp\:statusValueType"/>
    </extension>
  </complexContent>
</complexType>
```

```
<!-- Contact type field -->
<element name="fContactType" type="csvDomain:fContactsTypeType"
substitutionGroup="rdeCsv:field"/>
```

```
<complexType name="fContactsTypeType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
```



```
<sequence/>
  <attribute name="type" type="token"
    default="domain\:contactAttrType"/>
</extension>
</complexContent>
</complexType>

<!-- DNSSEC field types -->

<!-- Maximum signature lifetime field -->
<element name="fMaxSigLife" type="csvDomain:fMaxSigLifeType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fMaxSigLifeType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="secDNS\:maxSigLifeType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Key tag field -->
<element name="fKeyTag" type="rdeCsv:fUnsignedShortType"
  substitutionGroup="rdeCsv:field"/>

<!-- DS Algorithm field -->
<element name="fDsAlg" type="rdeCsv:fUnsignedByteType"
  substitutionGroup="rdeCsv:field"/>

<!-- Digest type field -->
<element name="fDigestType" type="rdeCsv:fUnsignedByteType"
  substitutionGroup="rdeCsv:field"/>

<!-- Digest field -->
<element name="fDigest" type="rdeCsv:fHexBinaryType"
  substitutionGroup="rdeCsv:field"/>

<!-- Flags field -->
<element name="fFlags" type="rdeCsv:fUnsignedShortType"
  substitutionGroup="rdeCsv:field"/>

<!-- Protocol field -->
<element name="fProtocol" type="rdeCsv:fUnsignedByteType"
  substitutionGroup="rdeCsv:field"/>

<!-- Key Algorithm field -->
<element name="fKeyAlg" type="rdeCsv:fUnsignedByteType"
```



```
    substitutionGroup="rdeCsv:field"/>

<!-- Public Key field -->
<element name="fPubKey" type="csvDomain:fPubKeyType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fPubKeyType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="secDNS:keyType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Original Domain Name for Variant field -->
<element name="fOriginalName" type="rdeCsv:fNameType"
  substitutionGroup="rdeCsv:field"/>

<!-- Domain status field -->
<element name="fStatus" type="csvDomain:fStatusType"
  substitutionGroup="rdeCsv:field"/>

<!-- Domain status based on domain-1.0.xsd -->
<complexType name="fStatusType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="domain\:statusValueType"/>
    </extension>
  </complexContent>
</complexType>

<!--
End of schema.
-->
</schema>
END
```

5.3. Host Object

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>

<schema targetNamespace="urn:ietf:params:xml:ns:csvHost-1.0"
  xmlns:csvHost="urn:ietf:params:xml:ns:csvHost-1.0"
  xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
  xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:host="urn:ietf:params:xml:ns:host-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <!--
  Import common element types
  -->
  <import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
    schemaLocation="eppcom-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:host-1.0"
    schemaLocation="host-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rde-1.0"
    schemaLocation="rde-1.0.xsd"/>
  <import namespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
    schemaLocation="rdeCsv-1.0.xsd"/>
```



```
<annotation>
  <documentation>
    Host Comma-Separated Values (CSV) Object
  </documentation>
</annotation>

<!--
Child elements of the <rde:contents> object
-->
<element name="contents" type="csvHost:contentType"
substitutionGroup="rde:content"/>

<complexType name="contentType">
  <complexContent>
    <extension base="rde:contentType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!--
Child elements of the <rde:deletes> object
-->
<element name="deletes" type="csvHost:deleteType"
substitutionGroup="rde:delete"/>

<complexType name="deleteType">
  <complexContent>
    <extension base="rde:deleteType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!-- Host name field -->
<element name="fName" type="rdeCsv:fNameRequiredType"
substitutionGroup="rdeCsv:field"/>

<!-- IP address field -->
<element name="fAddr" type="csvHost:fAddrType"
substitutionGroup="rdeCsv:field"/>
<complexType name="fAddrType">
```



```
<complexContent>
  <extension base="rdeCsv:fieldOptionalType">
    <sequence/>
    <attribute name="type" type="token"
      default="host\:addrStringType"/>
  </extension>
</complexContent>
</complexType>

<!-- IP address version field -->
<element name="fAddrVersion" type="csvHost:fAddrVersionType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fAddrVersionType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="host\:ipType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Host status field -->
<element name="fStatus" type="csvHost:fStatusType"
  substitutionGroup="rdeCsv:field"/>

<!-- Host status based on host-1.0.xsd -->
<complexType name="fStatusType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="host\:statusValueType"/>
    </extension>
  </complexContent>
</complexType>

<!--
End of schema.
-->
</schema>
END
```

5.4. Contact Object

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<schema targetNamespace="urn:ietf:params:xml:ns:csvContact-1.0"
  xmlns:csvContact="urn:ietf:params:xml:ns:csvContact-1.0"
  xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
  xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
```

```
<!--
```

```
Import common element types.
```

```
-->
```

```
<import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
  schemaLocation="eppcom-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:contact-1.0"
  schemaLocation="contact-1.0.xsd"/>
```



```
<import namespace="urn:ietf:params:xml:ns:rde-1.0"
  schemaLocation="rde-1.0.xsd"/>
<import namespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
  schemaLocation="rdeCsv-1.0.xsd"/>

<annotation>
  <documentation>
    Contact Comma-Separated Values (CSV) Object
  </documentation>
</annotation>

<!--
Child elements of the <rde:contents> object
-->
<element name="contents" type="csvContact:contentType"
  substitutionGroup="rde:content"/>

<complexType name="contentType">
  <complexContent>
    <extension base="rde:contentType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!--
Child elements of the <rde:deletes> object
-->
<element name="deletes" type="csvContact:deleteType"
  substitutionGroup="rde:delete"/>

<complexType name="deleteType">
  <complexContent>
    <extension base="rde:deleteType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!-- Server-unique contact identifier field -->
<element name="fId" type="csvContact:fIdType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fIdType">
```



```
<complexContent>
  <extension base="rdeCsv:fieldRequiredType">
    <sequence/>
    <attribute name="type" type="token"
      default="eppcom\:clIDType"/>
  </extension>
</complexContent>
</complexType>

<!-- Is Registrar Contact field -->
<element name="fIsRegistrarContact"
  type="rdeCsv:fBooleanType"
  substitutionGroup="rdeCsv:field"/>

<!-- voice and fax telephone number fields -->
<element name="fVoice" type="csvContact:fE164StringType"
  substitutionGroup="rdeCsv:field"/>
<element name="fFax" type="csvContact:fE164StringType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fE164StringType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:e164StringType"/>
    </extension>
  </complexContent>
</complexType>

<!-- voice and fax telephone extension fields -->
<element name="fVoiceExt" type="rdeCsv:fTokenType"
  substitutionGroup="rdeCsv:field"/>
<element name="fFaxExt" type="rdeCsv:fTokenType"
  substitutionGroup="rdeCsv:field"/>

<!-- contact email address field -->
<element name="fEmail" type="csvContact:fEmailType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fEmailType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
      <attribute name="type" type="token"
        default="eppcom\:minTokenType"/>
    </extension>
  </complexContent>
</complexType>
```



```
</complexType>

<!--
  Postal type field
  ("loc" = localized, "int" = internationalized)
-->
<element name="fPostalType" type="csvContact:fPostalTypeType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fPostalTypeType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:postalInfoEnumType"/>
    </extension>
  </complexContent>
</complexType>

<!-- Standard postal line field -->
<complexType name="fPostalLineType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:postalLineType"/>
      <attribute name="isLoc" type="boolean"/>
    </extension>
  </complexContent>
</complexType>

<!-- Standard optional postal line field -->
<complexType name="fOptPostalLineType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:optPostalLineType"/>
      <attribute name="isLoc" type="boolean"/>
    </extension>
  </complexContent>
</complexType>

<!-- Name of the individual or role field -->
<element name="fName" type="csvContact:fPostalLineType"
  substitutionGroup="rdeCsv:field"/>
```



```
<!-- Name organization field -->
<element name="fOrg" type="csvContact:fOptPostalLineType"
  substitutionGroup="rdeCsv:field"/>

<!-- Street address line field with required index attribute -->
<!-- starting with index 0. -->
<element name="fStreet" type="csvContact:fStreetType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fStreetType">
  <complexContent>
    <extension base="csvContact:fOptPostalLineType">
      <sequence/>
      <attribute name="index" type="int"
        use="required"/>
    </extension>
  </complexContent>
</complexType>

<!-- Contact's city field -->
<element name="fCity" type="csvContact:fPostalLineType"
  substitutionGroup="rdeCsv:field"/>

<!-- Contact's state or province field -->
<element name="fSp" type="csvContact:fOptPostalLineType"
  substitutionGroup="rdeCsv:field"/>

<!-- Contact's postal code field -->
<element name="fPc" type="csvContact:fPcType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fPcType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:pcType"/>
      <attribute name="isLoc" type="boolean"/>
    </extension>
  </complexContent>
</complexType>

<!-- Contact's country code field -->
<element name="fCc" type="csvContact:fCcType"
  substitutionGroup="rdeCsv:field"/>
<complexType name="fCcType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
    </extension>
  </complexContent>
</complexType>
```



```
<attribute name="type" type="token"
  default="contact\:ccType"/>
<attribute name="isLoc" type="boolean"/>
</extension>
</complexContent>
</complexType>

<!-- Disclosure element fields -->
<!-- Flag of "1" to allow disclosure
  and "0" to disallow disclosure -->
<element name="fDiscloseFlag" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of localized name
  based on fDiscloseFlag? -->
<element name="fDiscloseNameLoc" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of internationalized name
  based on fDiscloseFlag? -->
<element name="fDiscloseNameInt" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of localized org
  based on fDiscloseFlag? -->
<element name="fDiscloseOrgLoc" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of internationalized org
  based on fDiscloseFlag? -->
<element name="fDiscloseOrgInt" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of localized address
  based on fDiscloseFlag? -->
<element name="fDiscloseAddrLoc" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure of internationalized address
  based on fDiscloseFlag? -->
<element name="fDiscloseAddrInt" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure voice telephone number
  based on fDiscloseFlag? -->
<element name="fDiscloseVoice" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure facsimile telephone number
  based on fDiscloseFlag? -->
<element name="fDiscloseFax" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
<!-- Disclosure email address
  based on fDiscloseFlag? -->
<element name="fDiscloseEmail" type="csvContact:fBoolean"
  substitutionGroup="rdeCsv:field"/>
```



```
<complexType name="fBoolean">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="boolean"/>
    </extension>
  </complexContent>
</complexType>

<!-- Contact status field -->
<element name="fStatus" type="csvContact:fStatusType"
  substitutionGroup="rdeCsv:field"/>

<!-- Host status based on contact-1.0.xsd -->
<complexType name="fStatusType">
  <complexContent>
    <extension base="rdeCsv:fieldOptionalType">
      <sequence/>
      <attribute name="type" type="token"
        default="contact\:statusValueType"/>
    </extension>
  </complexContent>
</complexType>

<!--
End of schema.
-->
</schema>
END
```

5.5. Registrar Object

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<schema targetNamespace="urn:ietf:params:xml:ns:csvRegistrar-1.0"
  xmlns:csvRegistrar="urn:ietf:params:xml:ns:csvRegistrar-1.0"
  xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
  xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
  xmlns:contact="urn:ietf:params:xml:ns:contact-1.0"
  xmlns:domain="urn:ietf:params:xml:ns:domain-1.0"
  xmlns:eppcom="urn:ietf:params:xml:ns:eppcom-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
```

```
<!--
```

```
Import common element types.
```

```
-->
```

```
<import namespace="urn:ietf:params:xml:ns:eppcom-1.0"
  schemaLocation="eppcom-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:domain-1.0"
  schemaLocation="domain-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:contact-1.0"
  schemaLocation="contact-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:rde-1.0"
  schemaLocation="rde-1.0.xsd"/>
```

```
<import namespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
  schemaLocation="rdeCsv-1.0.xsd"/>
```

```
<annotation>
```

```
<documentation>
```

```
Registrar Comma-Separated Values (CSV) Object
```

```
</documentation>
```



```
</annotation>

<!--
Child elements of the <rde:contents> object
-->
<element name="contents" type="csvRegistrar:contentType"
substitutionGroup="rde:content"/>

<complexType name="contentType">
  <complexContent>
    <extension base="rde:contentType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!--
Child elements of the <rde:deletes> object
-->
<element name="deletes" type="csvRegistrar:deleteType"
substitutionGroup="rde:delete"/>

<complexType name="deleteType">
  <complexContent>
    <extension base="rde:deleteType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!-- Registrar unique identifier (short name / id) -->
<element name="fId" type="rdeCsv:fClIDRequiredType"
substitutionGroup="rdeCsv:field"/>

<!-- Registrar name (full name) -->
<element name="fName" type="csvRegistrar:fNameType"
substitutionGroup="rdeCsv:field"/>

<!-- Registrar name field -->
<complexType name="fNameType">
  <complexContent>
    <extension base="rdeCsv:fieldRequiredType">
      <sequence/>
    </extension>
  </complexContent>
</complexType>
```



```
        <attribute name="type" type="token"
        default="normalizedString"/>
        <attribute name="isLoc" type="boolean" default="false"/>
    </extension>
</complexContent>
</complexType>
```

```
<!-- Registrar GURID field -->
<element name="fGurid"
    type="rdeCsv:fPositiveIntegerType"
    substitutionGroup="rdeCsv:field"/>
```

```
<!-- Registrar status field -->
<element name="fStatus" type="csvRegistrar:fStatusType"
    substitutionGroup="rdeCsv:field"/>
<element name="fStatusName" type="rdeCsv:fTokenType"
    substitutionGroup="rdeCsv:field"/>
<complexType name="fStatusType">
    <complexContent>
        <extension base="rdeCsv:fieldOptionalType">
            <sequence/>
            <attribute name="type" type="token"
                default="csvRegistrar\:statusType"/>
        </extension>
    </complexContent>
</complexType>
```

```
<!-- Registrar status type with optional name attr -->
<complexType name="statusType">
    <simpleContent>
        <extension base="csvRegistrar:statusValueType">
            <attribute name="name" type="token"/>
        </extension>
    </simpleContent>
</complexType>
```

```
<!-- Registrar status enumerated values -->
<simpleType name="statusValueType">
    <restriction base="token">
        <enumeration value="ok"/>
        <enumeration value="readonly"/>
        <enumeration value="terminated"/>
    </restriction>
</simpleType>
```

```
<!-- Whois URL field -->
<element name="fWhoisUrl"
```



```
type="rdeCsv:anyURIType"
substitutionGroup="rdeCsv:field"/>

<!--
End of schema.
-->
</schema>
END
```

5.6. IDN Language Object

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BEGIN

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<schema targetNamespace="urn:ietf:params:xml:ns:csvIDN-1.0"
```



```
xmlns:csvIDN="urn:ietf:params:xml:ns:csvIDN-1.0"
xmlns:rde="urn:ietf:params:xml:ns:rde-1.0"
xmlns:rdeCsv="urn:ietf:params:xml:ns:rdeCsv-1.0"
xmlns="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">

<!--
Import common element types
-->
<import namespace="urn:ietf:params:xml:ns:rde-1.0"
schemaLocation="rde-1.0.xsd"/>
<import namespace="urn:ietf:params:xml:ns:rdeCsv-1.0"
schemaLocation="rdeCsv-1.0.xsd"/>

<annotation>
  <documentation>
    IDN Language Comma-Separated Values (CSV) Object
  </documentation>
</annotation>

<!--
Child elements of the <rde:contents> object
-->
<element name="contents" type="csvIDN:contentType"
substitutionGroup="rde:content"/>

<complexType name="contentType">
  <complexContent>
    <extension base="rde:contentType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<!--
Child elements of the <rde:deletes> object
-->
<element name="deletes" type="csvIDN:deleteType"
substitutionGroup="rde:delete"/>

<complexType name="deleteType">
  <complexContent>
    <extension base="rde:deleteType">
      <sequence>
        <element ref="rdeCsv:csv" maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>
```



```
</extension>
</complexContent>
</complexType>

<!--
End of schema.
-->
</schema>
END
```

5.7. Extension Guidelines

TBD

5.8. Internationalization Considerations

Data Escrow deposits are represented in XML, which provides native support for encoding information using the Unicode character set and its more compact representations including UTF-8. Conformant XML processors recognize both UTF-8 and UTF-16. Though XML includes provisions to identify and use other character encodings through use of an "encoding" attribute in an `<?xml?>` declaration, use of UTF-8 is RECOMMENDED.

5.9. IANA Considerations

This document uses URNs to describe XML namespaces and XML schemas conforming to a registry mechanism described in [[RFC3688](#)]. Fourteen URI assignments have been registered by the IANA.

Registration request for the RDE CSV namespace:

URI: urn:ietf:params:xml:ns:rdeCsv-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV XML schema:

URI: urn:ietf:params:xml:schema:rdeCsv-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

Registration request for the RDE CSV domain namespace:

URI: urn:ietf:params:xml:ns:csvDomain-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV domain XML schema:

URI: urn:ietf:params:xml:schema:csvDomain-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

Registration request for the RDE CSV host namespace:

URI: urn:ietf:params:xml:ns:csvHost-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV host XML schema:

URI: urn:ietf:params:xml:schema:csvHost-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

Registration request for the RDE CSV contact namespace:

URI: urn:ietf:params:xml:ns:csvContact-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV contact XML schema:

URI: urn:ietf:params:xml:schema:csvContact-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

Registration request for the RDE CSV registrar namespace:

URI: urn:ietf:params:xml:ns:csvRegistrar-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV registrar XML schema:

URI: urn:ietf:params:xml:schema:csvRegistrar-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

Registration request for the RDE CSV IDN namespace:

URI: urn:ietf:params:xml:ns:csvIDN-1.0

Registrant Contact: See the "Author's Address" section of this document.

XML: None. Namespace URIs do not represent an XML specification.

Registration request for the RDE CSV IDN XML schema:

URI: urn:ietf:params:xml:schema:csvIDN-1.0

Registrant Contact: See the "Author's Address" section of this document.

See the "Formal Syntax" section of this document.

5.10. Security Considerations

This specification does not define the security mechanisms to be used in the transmission of the data escrow deposits, since it only specifies the minimum necessary to enable the rebuilding of a

Registry from deposits without intervention from the original Registry.

Depending on local policies, some elements or most likely, the whole deposit will be considered confidential. As such the Registry transmitting the data to the Escrow Agent SHOULD take all the necessary precautions like encrypting the data itself and/or the transport channel to avoid inadvertent disclosure of private data.

It is also of the utmost importance the authentication of the parties passing data escrow deposit files. The Escrow Agent SHOULD properly authenticate the identity of the Registry before accepting data escrow deposits. In a similar manner, the Registry SHOULD authenticate the identity of the Escrow Agent before submitting any data.

Additionally, the Registry and the Escrow Agent SHOULD use integrity checking mechanisms to ensure the data transmitted is what the source intended. Validation of the contents by the Escrow Agent is RECOMMENDED to ensure not only the file was transmitted correctly from the Registry, but also the contents are also "meaningful".

5.11. Acknowledgments

Parts of this document are based on EPP [[RFC5730](#)] and related RFCs by Scott Hollenbeck. The structure and some of the sample data and content of this document is based on the Domain Name Registration Data (DNRD) Objects Mapping [[3](#)] by Francisco Arias and Shoji Noguchi.

TBD

5.12. Change History

5.12.1. Change from 00 to 01

1. Removed definition of <rdeCsv:fName> and replaced with <csvDomain:fName> and <csvHost:fName> to be more specific.
2. Removed definition of the <rdeCsv:fields> optional "list" attribute.
3. Removed definition of list field elements: <rdeCsv:fStatuses>, <rdeCsv:fAdminContacts>, <rdeCsv:fTechContacts>, <rdeCsv:fBillingContacts>, <csvDomain:fNsObjs>, <csvDomain:fRgpStatuses>, <csvHost:fV4Addrs>, <csvHost:fV6Addrs>, and <csvRegistrar:fContactTypes>.

4. Added field elements `<rdeCsv:fStatus>`, `<rdeCsv:fStatusDescription>`, `<rdeCsv:fStatusDescriptionLang>`, `<csvDomain:fContactType>`, `<csvDomain:fRgpStatus>`, `<csvHost:fAddr>`, and `<csvHost:fAddrVersion>`.
5. Added `<rdeCsv:csv>` name values and definition of "domainStatuses", "domainNameServers", "hostStatuses", "hostAddresses", "contactStatuses", and "registrarContacts".
6. Remove "registrarContact" `<rdeCsv:csv>` name value to fully use the contact object for both domain contacts and registrar contacts.
7. Added definition of `<csvContact:fIsRegistrarContact>` to enable the mixing of registrar contacts and the object contacts in the same contact object CSV files.

5.12.2. Change from 01 to 02

1. Replaced the `<rdeCsv:fStatus>` field with the `<csvDomain:fStatus>`, `<csvHost:fStatus>`, and `<csvContact:fStatus>` fields, since there is no `eppcom:statusType` element, but there is a `domain:statusValueType`, `host:statusValueType`, and `contact:statusValueType` types.
2. Fixed reference of XSD `datetime` to `dateTime` in the `rdeCsv:fDateTimeType` field, that was renamed to the `rdeCsv:fDateTimeType` field.
3. Fixed reference to XSD `unsignedbyte` to `unsignedByte` in the `rdeCsv:fUnsignedByteType` field.
4. Fixed some of the sample CSV sample data.
5. Removed `<csvDomain:fIdn>`, `<csvDomain:fVariant>`, and `<csvDomain:fReserved>` fields to sync up with [draft-arias-noguchi-dnrd-objects](#).
6. Added `<rdeCsv:fCrRr>` and `<rdeCsv:fUpRr>` fields to sync up with [draft-arias-noguchi-dnrd-objects](#).
7. Removed use of `<rdeCsv:fCrID>` and `<rdeCsv:fUpID>` from "registrar" to sync up with [draft-arias-noguchi-dnrd-objects](#).
8. Removed `<domain:fPwAuthInfo>` and `<contact:fPwAuthInfo>` to sync up with [draft-arias-noguchi-dnrd-objects](#).

9. Removed the "registrarContacts" <rdeCsv:csv> object, the <csvContact:fIsRegistrarContact> field, the <csvRegistrar:fContactType> field, the <csvRegistrar:fCustomContactTypeName> to sync up with [draft-arias-noguchi-dnrd-objects](#).
10. Added the <rdeCsv:fReRr> and <rdeCsv:fAcRr> fields to sync up with [draft-arias-noguchi-dnrd-objects](#).
11. Removed the <csvHost:fParentDomain> and <csvHost:fIdn> fields, and removed reference to <rdeCsv:fUName> of the "host" object.
12. Changed the <csvRegistrar:fStatus> enumerated list to include only "ok", "readonly", and "terminated" to sync up with [draft-arias-noguchi-dnrd-object](#). Also removed support for the <csvRegistrar:fStatusName> field.
13. Updated the description of the "Registrar Object" to include an organization for clients that create and update objects, including the registry.
14. Added definition of the "isRequired" boolean field attribute to indicate whether a field must be non-empty in the CSV file.

5.12.3. Change from 02 to 03

1. Incorporated fixes to issues with examples identified by Rickard Bellgrim.
2. Updates to support [draft-arias-noguchi-registry-data-escrow-05](#) by removing the reference to <rde:contents> and replacing with the reference to <rde:content> in the CSV object schemas, and removing reference to <rde:content> in the rdeCsv-1.0 schema.
3. Restructured the sub-elements of <rde:deletes> by removing the generic <rdeCsv:csvDelete> element and replacing with specific object specific deletes elements like <csvDomain:deletes> that contains <rdeCsv:csv> elements.

6. References

6.1. Normative References

[ISO-3166-1]

International Organization for Standardization, "Codes for the representation of names of countries and their subdivisions - Part 1: Country codes", ISO Standard 3166, November 2006.

- [ITU-E164] International Telecommunication Union, "The international public telecommunication numbering plan", ITU-T Recommendation E.164, February 2005.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC3339] Klyne, G., Ed. and C. Newman, "Date and Time on the Internet: Timestamps", [RFC 3339](#), July 2002.
- [RFC3915] Hollenbeck, S., "Domain Registry Grace Period Mapping for the Extensible Provisioning Protocol (EPP)", [RFC 3915](#), September 2004.
- [RFC5730] Hollenbeck, S., "Extensible Provisioning Protocol (EPP)", STD 69, [RFC 5730](#), August 2009.
- [RFC5731] Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Domain Name Mapping", STD 69, [RFC 5731](#), August 2009.
- [RFC5732] Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Host Mapping", STD 69, [RFC 5732](#), August 2009.
- [RFC5733] Hollenbeck, S., "Extensible Provisioning Protocol (EPP) Contact Mapping", STD 69, [RFC 5733](#), August 2009.
- [RFC5910] Gould, J. and S. Hollenbeck, "Domain Name System (DNS) Security Extensions Mapping for the Extensible Provisioning Protocol (EPP)", [RFC 5910](#), May 2010.

[6.2.](#) Informative References

- [RFC0791] Postel, J., "Internet Protocol", STD 5, [RFC 791](#), September 1981.
- [RFC3688] Mealling, M., "The IETF XML Registry", [BCP 81](#), [RFC 3688](#), January 2004.
- [RFC4291] Hinden, R. and S. Deering, "IP Version 6 Addressing Architecture", [RFC 4291](#), February 2006.

URIs

- [1] <http://tools.ietf.org/id/draft-arias-noguchi-registry-data-escrow-05.txt>
- [2] <http://tools.ietf.org/id/>

[draft-arias-noguchi-registry-data-escrow-04.txt](#)>

[3] <<http://tools.ietf.org/id/draft-arias-noguchi-dnrd-objects-mapping-01.txt>>

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