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Mark and Signed Mark Objects Mapping
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Abstract

This document describes the format of a mark and a digitally signed mark, referred to as a signed mark and the Signed Mark Data (SMD) file as defined by the ICANN Trademark Clearinghouse.

Status of this Memo

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

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This Internet-Draft will expire on August 30, 2015.

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1. Introduction

This document describes the format of a mark and a digitally signed mark, referred to as a signed mark and the Signed Mark Data (SMD) file as defined by the ICANN Trademark Clearinghouse. This document provides a framework that can be referenced by application protocols like the Extensible Provisioning Protocol (EPP), defined in [RFC5730].

1.1. Terminology

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].

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

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

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

2. Object Description

This section defines the objects associated with marks and signed marks. Empty complex element types and abstract elements are defined to support additional mark and signed mark definition using XSD substitution groups. Support for replacement through the XSD substitution groups is included in the descriptions of the objects.

2.1. Holder and Contacts objects

Marks are linked to Holder objects and optionally linked to Contacts objects. This section defines the <mark:holder> and <mark:contact> objects.

- The child elements of <mark:holder> include:
  - An OPTIONAL <mark:name> element that contains the name of the holder. A <mark:name> MUST be specified in case <mark:org> is not specified.
  - An OPTIONAL <mark:org> element that contains the name of the organization holder of the mark. A <mark:org> MUST be specified in case <mark:name> is not specified.
  - A <mark:addr> element that contains the address information of the holder of a mark. A <mark:addr> contains the following child elements:
    - One, two or three OPTIONAL <mark:street> elements that contains the organization's street address.
    - A <mark:city> element that contains the organization's city.
    - An OPTIONAL <mark:sp> element that contains the organization's state or province.
    - An OPTIONAL <mark:pc> element that contains the organization's postal code.
    - A <mark:cc> element that contains the organization's country code. This a two-character code from [ISO3166-2].
  - An OPTIONAL <mark:voice> element that contains the organization's voice telephone number.
  - An OPTIONAL <mark:fax> element that contains the organization's facsimile telephone number.
  - An OPTIONAL <mark:email> element that contains the email address of the holder.
- The child elements of <mark:contact> include:
  - A <mark:name> element that contains name of the responsible person.
  - An OPTIONAL <mark:org> element that contains the name of the organization of the contact.
  - A <mark:addr> element that contains the address information of the contact. A <mark:addr> contains the following child elements:

        + One, two or three OPTIONAL <mark:street> elements that contains the contact's street address.

        + A <mark:city> element that contains the contact's city.

        + An OPTIONAL <mark:sp> element that contains the contact's state or province.

        + An OPTIONAL <mark:pc> element that contains the contact's postal code.

        + A <mark:cc> element that contains the contact's country code. This a two-character code from [ISO3166-2].

    * A <mark:voice> element that contains the contact's voice telephone number.

    * An OPTIONAL <mark:fax> element that contains the contact's facsimile telephone number.

    * A <mark:email> element that contains the contact's email address.

2.2. Mark

A <mark:mark> element that describes an applicant's prior right to a given domain name.

A <mark:mark> element substitutes for the <mark:abstractMark> abstract element to define a concrete definition of a mark. The <mark:abstractMark> element can be replaced by other mark definitions using the XML schema substitution groups feature.

The child elements of the <mark:mark> element include:

One or more <mark:trademark>, <mark:treatyOrStatute> and <mark:court> elements that contains the detailed information of marks.

- A <mark:trademark> element that contains the following child elements.

    * A <mark:id> element that contains an identifier of the mark. The identifier MUST be globally unique in relation to the repository of marks. A <mark:id> value is a concatenation of the local identifier, followed by a hyphen ("-", ASCII value 0x002D), followed by the issuer identifier.

* A <mark:markName> element that contains the mark text string.

* One or more <mark:holder> elements that contains the information of the holder of the mark. An "entitlement" attribute is used to identify the entitlement of the holder, possible values are: owner, assignee and licensee.

* Zero or more OPTIONAL <mark:contact> elements that contains the information of the representative of the mark registration. A "type" attribute is used to identify the type of contact, possible values are: owner, agent or thirdparty.

* A <mark:jurisdiction> element that contains the two-character code of the jurisdiction where the trademark was registered. This is a two-character code from [WIPO.ST3].

* Zero or more OPTIONAL <mark:class> elements that contain the Nice Classification class numbers of the mark as defined in the Nice List of Classes [1].

* Zero or more OPTIONAL <mark:label> elements that contain the A-label form of the label that correspond to the <mark: markName>.

* A <mark:goodsAndServices> element that contains the full description of the goods and services mentioned in the mark registration document.

* An OPTIONAL <mark:apId> element that contains the trademark application ID registered in the trademark office.

* An OPTIONAL <mark:apDate> element that contains the date the trademark was applied for.

* A <mark:regNum> element that contains the trademark registration number registered in the trademark office.

* A <mark:regDate> element that contains the date the trademark was registered.

* An OPTIONAL <mark:exDate> element that contains the expiration date of the trademark.

o A <mark:treatyOrStatute> element that contains the following child elements.

* A <mark:id> element that contains an identifier of the mark. The identifier MUST be globally unique in relation to the

repository of marks. A <mark:id> value is a concatenation of the local identifier, followed by a hyphen ("-", ASCII value 0x002D), followed by the issuer identifier.

* A <mark:markName> element that contains the mark text string.

* One or more <mark:holder> elements that contains the information of the holder of the mark. An "entitlement" attribute is used to identify the entitlement of the holder, possible values are: owner, assignee and licensee.

* Zero or more OPTIONAL <mark:contact> elements that contains the information of the representative of the mark registration. A "type" attribute is used to identify the type of contact, possible values are: owner, agent or thirdparty.

* One or more <mark:protection> elements that contain the countries and region of the country where the mark is protected. The <mark:protection> element contains the following child elements:

  + A <mark:cc> element that contains the two-character code of the country in which the mark is protected. This is a two-character code from [ISO3166-2].

  + An OPTIONAL <mark:region> element that contains the name of a city, state, province or other geographic region of <mark:country> in which the mark is protected.

  + Zero or more OPTIONAL <mark:ruling> elements that contains the two-character code of the countries of the ruling. This is a two-character code from [ISO3166-2].

* Zero or more OPTIONAL <mark:label> elements that contain the A-label form of the label that correspond to the <mark:markName>.

* A <mark:goodsAndServices> element that contains the full description of the goods and services mentioned in the mark registration document.

* A <mark:refNum> element that contains the number of the mark of the treaty or statute.

* A <mark:proDate> element that contains the date of protection of the mark.

  * A <mark:title> element that contains the title of the treaty or statute.

  * A <mark:execDate> element that contains the execution date of the treaty or statute.

- A <mark:court> element that contains the following child elements.

  * A <mark:id> element that contains an identifier of the mark. The identifier MUST be globally unique in relation to the repository of marks. A <mark:id> value is a concatenation of the local identifier, followed by a hyphen ("-", ASCII value 0x002D), followed by the issuer identifier.

  * A <mark:markName> element that contains the mark text string.

  * One or more <mark:holder> elements that contains the information of the holder of the mark. An "entitlement" attribute is used to identify the entitlement of the holder, possible values are: owner, assignee and licensee.

  * Zero or more OPTIONAL <mark:contact> elements that contains the information of the representative of the mark registration. A "type" attribute is used to identify the type of contact, possible values are: owner, agent or thirdparty.

  * Zero or more OPTIONAL <mark:label> elements that contain the A-label form of the label that correspond to the <mark: markName>.

  * A <mark:goodsAndServices> element that contains the full description of the goods and services mentioned in the mark registration document.

  * A <mark:refNum> element that contains the reference number of the court’s opinion.

  * A <mark:proDate> element that contains the date of protection of the mark.

  * A <mark:cc> element that contains the two-character code of the country where the court is located. This a two-character code from [ISO3166-2].

  * Zero or more OPTIONAL <mark:region> elements that contains the name of a city, state, province or other geographic region of <mark:cc> in which the mark is protected. In case <mark: region> is specified a default-deny approach MUST be assumed

regarding the regions of a country.

* A <mark:courtName> element that contains the name of the court.

2.3. Signed Mark

The <smd:signedMark> is the fragment of XML that is digitally signed using XML Signature [2]. The <smd:signedMark> includes a required "id" attribute of type XSD ID for use with an IDREF URI from the Signature element. The certificate of the issuer MAY be issued by a Certificate Authority (CA) that can be chained with the issuer's certificate by the validating client.

A <smd:signedMark> element substitutes for the <smd: abstractSignedMark> abstract element to define a concrete definition of a signed mark. The <smd:abstractSignedMark> element can be replaced by other signed mark definitions using the XML schema substitution groups feature.

The child elements of the <smd:signedMark> element include:

- The <smd:id> value is a concatenation of the local identifier, followed by a hyphen ("-", ASCII value 0x002D), followed by the issuer identifier.
- A <smd:issuerInfo> element that contains the information of the issuer of the mark registration. A "issuerID" attribute is used to specify the issuer identifier. The child elements include:
  * A <smd:org> element that contains the organization name of the issuer.
  * A <smd:email> element that contains the issuer customer support email address.
  * An OPTIONAL <smd:url> element that contains the HTTP URL of the issuer's site.
  * An OPTIONAL <smd:voice> element that contains the issuer's voice telephone number.
- A <smd:notBefore> element that contains the creation date and time of the signed mark.
- A <smd:notAfter> element that contains the expiration date and time of the signed mark.

- A <mark:mark> element that contains the mark information as defined in the Mark (Section 2.2) section.

- A <Signature> XML Signature [2] for the <smd:signedMark>. Use of a namespace prefix, like "dsig", is recommended for the "http://www.w3.org/TR/xmldsig-core/" elements.

The following is an example <smd:signedMark> using the XML Signature [2] to sign all of the elements of <smd:signedMark> element.

```
<?xml version="1.0" encoding="UTF-8"?>
<smd:signedMark xmlns:smd="urn:ietf:params:xml:ns:signedMark-1.0"
id="smd1">
  <smd:id>0000001751376056503931-65535</smd:id>
  <smd:issuerInfo issuerID="65535">
    <smd:org>ICANN TMCH TESTING TMV</smd:org>
    <smd:email>notavailable@example.com</smd:email>
    <smd:url>http://www.example.com</smd:url>
    <smd:voice>+32.000000</smd:voice>
  </smd:issuerInfo>
  <smd:notBefore>2013-08-09T13:55:03.931Z</smd:notBefore>
  <smd:notAfter>2017-07-23T22:00:00.000Z</smd:notAfter>
  <mark:mark xmlns:mark="urn:ietf:params:xml:ns:mark-1.0">
    <mark:trademark>
      <mark:id>000520137346897313734689 73-65535</mark:id>
      <mark:markName>Test &amp;amp; Validate</mark:markName>
      <mark:holder entitlement="owner">
        <mark:org>Ag corporation</mark:org>
        <mark:addr>
          <mark:street>1305 Bright Avenue</mark:street>
          <mark:city>Arcadia</mark:city>
          <mark:sp>CA</mark:sp>
          <mark:pc>90028</mark:pc>
          <mark:cc>US</mark:cc>
        </mark:addr>
      </mark:holder>
      <mark:contact type="agent">
        <mark:name>Tony Holland</mark:name>
        <mark:org>Ag corporation</mark:org>
        <mark:addr>
          <mark:street>1305 Bright Avenue</mark:street>
          <mark:city>Arcadia</mark:city>
          <mark:sp>CA</mark:sp>
          <mark:pc>90028</mark:pc>
          <mark:cc>US</mark:cc>
        </mark:addr>
        <mark:voice>+1.2025562302</mark:voice>
```

```
        <mark:fax>+1.2025562301</mark:fax>
        <mark:email>info@agcorporation.com</mark:email>
      </mark:contact>
      <mark:jurisdiction>US</mark:jurisdiction>
      <mark:class>15</mark:class>
      <mark:label>testandvalidate</mark:label>
      <mark:label>test---validate</mark:label>
      <mark:label>testand-validate</mark:label>
      <mark:label>test-et-validate</mark:label>
      <mark:label>test-validate</mark:label>
      <mark:label>test--validate</mark:label>
      <mark:label>test-etvalidate</mark:label>
      <mark:label>testetvalidate</mark:label>
      <mark:label>testvalidate</mark:label>
      <mark:label>testet-validate</mark:label>
      <mark:goodsAndServices>guitar</mark:goodsAndServices>
      <mark:regNum>1234</mark:regNum>
      <mark:regDate>2012-12-31T23:00:00.000Z</mark:regDate>
    </mark:trademark>
  </mark:mark>
 <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
  <SignedInfo>
   <CanonicalizationMethod
Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
   <SignatureMethod
Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
   <Reference URI="#smd1">
    <Transforms>
     <Transform
Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
    </Transforms>
    <DigestMethod
Algorithm="http://www.w3.org/2001/04/xmlenc#sha256"/>
<DigestValue>wgyW3nZPoEfpptlhRILKnOQnbdtU6ArM7ShrAfHgDFg=</DigestValue>
   </Reference>
  </SignedInfo>
  <SignatureValue>
jMu4PfyQGiJBF0GWSEPFCJjmywCEqR2h4LD+ge6XQ+JnmKFFCuCZS/3SLKAx0L1w
QDFO2e0Y69k2G7/LGE37X3vOflobFM1oGwja8+GMVraoto5xAd4/AF7eHukgAymD
o9toxoa2h0yV4A4PmXzsU6S86XtCcUE+S/WM72nyn47zoUCzzPKHZBRyeWehVFQ+
jYRMIAMzM57HHQA+6eaXefRvtPETgUO4aVIVSugc4OUAZZwbYcZrC6wOaQqqqAZi
30aPOBYbAvHMSmWSS+hFkbshomJfHxb97TD2grlYNrQIzqXk7WbHWy2SYdA+sI/Z
ipJsXNa6osTUw1CzA7jfwA==
  </SignatureValue>
  <KeyInfo>
   <X509Data>
   <X509Certificate>
MIIESTCCAzGgAwIBAgIBAjANBgkqhkiG9w0BAQsFADBiMQswCQYDVQQGEwJVUzEL
```

```
MAkGA1UECBMCQ0ExFDASBgNVBAcTC0xvcyBBbmdlbGVzMRMwEQYDVQQKEwpJQ0FO
TiBUTUNIMRswGQYDVQQDExJJQ0FOTiBUTUNIIFRFU1QgQ0EwHhcNMTMwMjA4MDAw
MDAwWhcNMTgwMjA3MjM1OTU5WjBsMQswCQYDVQQGEwJVUzELMAkGA1UECBMCQ0Ex
FDASBgNVBAcTC0xvcyBBbmdlbGVzMRcwFQYDVQQKEw5WYWxpZGF0b3IgVE1DSDEh
MB8GA1UEAxMYVmFsaWRhdG9yIFRNQ0ggVEVTVCBDRVJUMIIBIjANBgkqhkiG9w0B
AQEFAAOCAQ8AMIIBCgKCAQEAo/cwvXhbVYl0RDWWvoyeZpETVZVVcMCovUVNg/sw
WinuMgEWgVQFrz0xA04pEhXCFVv4evbUpekJ5buqU1gmQyOsCKQlhOHTdPjvkC5u
pDqa51Flk0TMaMkIQjs7aUKCmA4RG4tTTGK/EjR1ix8/D0gHYVRldy1YPrMP+ou7
5bOVnIos+HifrAtrIv4qEqwLL4FTZAUpaCa2BmgXfy2CSRQbxD5Or1gcSa3vurh5
sPMCNxqaXmIXmQipS+DuEBqMM8tldaN7RYojUEKrGVsNk5i9y2/7sjn1zyyUPf7v
L4GgDYqhJYWV61DnXgx/Jd6CWxvsnDF6scscQzUTEl+hywIDAQABo4H/MIH8MAwG
A1UdEwEB/wQCMAAwHQYDVR0OBBYEFPZEcIQcD/Bj2IFz/LERuo2ADJviMIGMBgNV
HSMEgYQwgYGAFO0/7kEh3FuEKS+Q/kYHaD/W6wihoWakZDBiMQswCQYDVQQGEwJV
UzELMAkGA1UECBMCQ0ExFDASBgNVBAcTC0xvcyBBbmdlbGVzMRMwEQYDVQQKEwpJ
Q0FOTiBUTUNIMRswGQYDVQQDExJJQ0FOTiBUTUNIIFRFU1QgQ0GCAQEwDgYDVR0P
AQH/BAQDAgeAMC4GA1UdHwQnMCUwI6AhoB+GHWh0dHA6Ly9jcmwuaWNhbm4ub3Jn
L3RtY2guY3JsMA0GCSqGSIb3DQEBCwUAA4IBAQB2qSy7ui+43cebKUKwWPrzz9y/
IkrMeJGKjo40n+9uekaw3DJ5EqiOf/qZ4pjBD++oR6BJCb6NQuQKwnoAz5lE4Ssu
y5+i93oT3HfyVc4gNMIoHm1PS19l7DBKrbwbzAea/0jKWVzrvmV7TBfjxD3AQo1R
bU5dBr6IjbdLFlnO5x0G0mrG7x5OUPuurihyiURpFDpwH8KAH1wMcCpXGXFRtGKk
wydgyVYAty7otkl/z3bZkCVT34gPvF70sR6+QxUy8u0LzF5A/beYaZpxSYG31amL
AdXitTWFipaIGea9lEGFM0L9+Bg7XzNn4nVLXokyEB3bgS4scG6QznX23FGk
  </X509Certificate>
  </X509Data>
  </KeyInfo>
 </Signature>
</smd:signedMark>
```

NOTE: The example shown above includes white-spaces for indentation purposes. It is RECOMMENDED that SMDs do not include white-spaces between the XML elements, in order to mitigate risks of invalidating the digital signature when transferring of SMDs between applications takes place.

NOTE: Exclusive XML canonicalization SHOULD be used when generating the SMD. SHA256/RSA-SHA256 SHOULD be used for digesting and signing. The size of the RSA key SHOULD be at least 2048 bits.

2.4. Encoded Signed Mark

The <smd:encodedSignedMark> element contains an encoded form of the digitally signed <smd:signedMark> element, described in Section 2.3, with the encoding defined by the "encoding" attribute with the default "encoding" value of "base64". The "base64" encoded text of the <smd:encodedSignedMark> element MUST conform to [RFC2045]. A full example of a <smd:encodedSignedMark> element is presented in Appendix A.

2.5. Appendix A. base64 encoded signedMark

The following is an example of a <smd:encodedSignedMark> element that uses the default "base64" for encoding a <smd:signedMark> element.

```
<smd:encodedSignedMark
   xmlns:smd="urn:ietf:params:xml:ns:signedMark-1.0">
PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4KPHNtZDpzaWduZWRNYXJ
rIHhtbG5zOnNtZD0idXJuOmlldGY6cGFyYW1zOnhtbDpuczpzaWduZWRNYXJrLTEuMCIgaW
Q9Il84Yzk0ZjRmMS1jZTlmLTRjOTAtOTUzMS01MzE1ZDIzY2EzYmQiPgogIDxzbWQ6aWQ+M
DAwMDAwMTc1MTM3NjA1NjUwMzkzMS02NTUzNTwvc21kOmlkPgogIDxzbWQ6aXNzdWVySW5m
byBpc3N1ZXJJRD0iNjU1MzUiPgogICAgPHNtZDpvcmc+SUNBTk4gVE1DSCBURVNUSU5HIFR
NVjwvc21kOm9yZz4KICAgIDxzbWQ6ZW1haWw+bm90YXZhaWxhYmxlQGV4YW1wbGUuY29tPC
9zbWQ6ZW1haWw+CiAgICA8c21kOnVybD5odHRwOi8vd3d3LmV4YW1wbGUuY29tPC9zbWQ6d
XJsPgogICAgPHNtZDp2b2ljZT4rMzIuMDAwMDAwPC9zbWQ6dm9pY2U+CiAgPC9zbWQ6aXNz
dWVySW5mbz4KICA8c21kOm5vdEJlZm9yZT4yMDEzLTA4LTA5VDEzOjU1OjAzLjkzMVo8L3N
tZDpub3RCZWZvcmU+CiAgPHNtZDpub3RBZnRlcj4yMDE3LTA3LTIzVDIyOjAwOjAwLjAwMF
o8L3NtZDpub3RBZnRlcj4KICA8bWFyazptYXJrIHhtbG5zOm1hcms9InVybjppZXRmOnBhc
mFtczp4bWw6bnM6bWFyay0xLjAiPgogICAgPG1hcms6dHJhZGVtYXJrPgogICAgICA8bWFy
azppZD4wMDA1MjAxMzczNDY4OTczMTM3MzQ2ODk3My02NTUzNTwvbWFyazppZD4KICAgICA
gPG1hcms6bWFya05hbWU+VGVzdCAmYW1wOyBWYWxpZGF0ZTwvbWFyazptYXJrTmFtZT4KIC
AgICAgPG1hcms6aG9sZGVyIGVudGl0bGVtZW50PSJvd25lciI+CiAgICAgICAgPG1hcms6b
3JnPkFnIGNvcnBvcmF0aW9uPC9tYXJrOm9yZz4KICAgICAgICAgICAgPG1hcms6c3RyZWV0PjEzMDUgQnJpZ2h0IEF2ZW51ZTwvbWFyazpzdHJlZXQ+CiA
gICAgICAgICA8bWFyazpjaXR5PkFyY2FkaWE8L21hcms6Y2l0eT4KICAgICAgICAgICAgPG
FyazpjaXR5PgogICAgICAgICAgICA8bWFyazpjYz5VUzwvbWFyazpjYz4KICAgICAgICAgI
CAgICAgICA8L21hcms6YWRkcj4K
ICAgICAgICAgICAgPC9tYXJrOmhvbGRlcj4KICAgICAgICAgICAgPG1hcms6Y29udGFjdCB0eXBlPSJhZ2VudCI
+CiAgICAgICAgICAgICAgPG1hcms6bmFtZT5Ub255IEhvbGxhbmQ8L21hcms6bmFtZT4KICAgICAgICAgICAgIC
A8bWFyazpvcmc+QWcgY29ycG9yYXRpb248L21hcms6b3JnPgogICAgICAgICAgICAgIDxtYXJrOmFkZ
HI+CiAgICAgICAgICAgICAgICA8bWFyazpzdHJlZXQ+MTMwNSBCcmlnaHQgQXZlbnVlPC9tYXJrOnN0
cmVldD4KICAgICAgICAgICAgICAgICAgICA8bWFyazpjaXR5PgogICAgICAgICAgICAgICAgICAgIDxtYXJrOmNpdHk
+Q0E8L21hcms6c3A+Q0E8L21hcms6c3A+CiAgICAgICAgICAgICAgICA8bWFyazpwYz45MDAyODwvbW
FyazpwYz4KICAgICAgICAgICAgICAgICAgICA8bWFyazpjPlVTPC9tYXJrOmNjPgogICAgICAgICAgICAgICAgICA8bWFya
zphZGRyPgogICAgICAgICAgICAgICAgICAgIDxtYXJrOnZvaWNlPisxLjIwMjU1NjIzMDI8L21hcms6dm9pY2U+
CiAgICAgICAgICAgICAgICAgICAgPG1hcms6ZmF4PisxLjIwMjU1NjIzMDE8L21hcms6ZmF4PgogICAgICAgICAgICAgICAgICAgIDx
tYXJrOmVtYWlsPmluZm9AYWdjb3Jwb3JhdGlvbi5jb208L21hcms6ZW1haWw+CiAgICAgICAgICAgICAgICAgICAgICAgID
wvbWFyazpjb250YWN0PgogICAgICAgICAgICAgICAgICAgICAgICA8bWFyazpqdXJpc2RpY3Rpb24+VVM8L21hcms6anVya
XNkaWN0aW9uPgogICAgICAgICAgICAgICAgICAgICAgICA8bWFyazpjbGFzcz4xNTwvbWFyazpjbGFzcz4KICAgICAgICAgICAgICAgICAgICAgICAgPG1h
cms6bGFiZWw+dGVzdGFuZHZhbGlkYXRlPC9tYXJrOmxhYmVsPgogICAgICAgICAgICAgICAgICAgICAgICA8bWFyazpsYWJ
lbD50ZXN0LS0tdmFsaWRhdGU8L21hcms6bGFiZWw+CiAgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVsPnRlc3
RhbmQtdmFsaWRhdGU8L21hcms6bGFiZWw+CiAgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVsPnRlc3QtZXQtd
mFsaWRhdGU8L21hcms6bGFiZWw+CiAgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVsPnRlc3QtdmFsaWRhdGU8
L21hcms6bGFiZWw+CiAgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVsPnRlc3QtLXZhbGlkYXRlPC9tYXJrOmx
hYmVsPgogICAgICAgICAgICAgICAgICAgICAgICA8bWFyazpsYWJlbD50ZXN0LWV0dmFsaWRhdGU8L21hcms6bGFiZWw+Ci
AgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVsPnRlc3RldHZhbGlkYXRlPC9tYXJrOmxhYmVsPgogICAgICAgICA8b
WFyazpsYWJlbD50ZXN0dmFsaWRhdGU8L21hcms6bGFiZWw+CiAgICAgICAgICAgICAgICAgICAgICAgIDxtYXJrOmxhYmVs
PnRlc3RldC12YWxpZGF0ZTwvbWFyazpsYWJlbD4KICAgICAgICAgICAgICAgICAgICAgICAgPG1hcms6Z29vZHNBbmRTZXJ
```

2aWNlcz5ndWl0YXI8L21hcms6Z29vZHNBbmRTZXJ2aWNlcz4KICAgICAgPG1hcms6cmVnTn
VtPjEyMzQ8L21hcms6cmVnTnVtPgogICAgICA8bWFyazpyZWdEYXRlPjIwMTItMTItMzFUM
jM6MDA6MDAuMDAwWjwvbWFyazpyZWdEYXRlPgogICAgPC9tYXJrOnRyYWRlbWFyaz4KICA8
L21hcms6bWFyaz4KPGRzOlNpZ25hdHVyZSB4bWxuczpkcz0iaHR0cDovL3d3dy53My5vcmc
vMjAwMC8wOS94bWxkc2lnIyIgSWQ9Il81ODg5YzM5Zi1jMzM3LTQ0NzctOTU1Ni05NTNiZT
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OlNpZ25hdHVyZU1ldGhvZCBBbGdvcml0aG09Imh0dHA6Ly93d3cudzMub3JnLzIwMDEvMDQ
veG1sZHNpZy1tb3JlI3JzYS1zaGEyNTYiLz48Z09cM6UmVmZXJlbmNlIFVSST0iI184Yzk0Zj
RmMS1jZTlmLTRjOTAtOTUzMS01MzE1ZDIzY2EzYmQiPjxkczpUcmFuc2Zvcm1zPjxkczpUc
mFuc2Zvcm0gQWxnb3JpdGhtPSJodHRwOi8vd3d3LnczLm9yZy8yMDAwLzA5L3htbGRzaWcj
ZW52ZWxvcGVkLXNpZ25hdHVyZSIvPjxkczpUcmFuc2Zvcm0gQWxnb3JpdGhtPSJodHRwOi8
vd3d3LnczLm9yZy8yMDAxLzEwL3htbC1leGMtYzE0biMiLz48L2RzOlRyYW5zZm9ybXM+PG
RzOkRpZ2VzdE1ldGhvZCBBbGdvcml0aG09Imh0dHA6Ly93d3cudzMub3JnLzIwMDEvMDQve
G1sZW5jI3NoYTI1NiIvPjxkczpEaWdlc3RWYWx1ZT5IdUdKYlZCWkVaVGlFelB2d0NObVFs
NmFMZEExWHo1QzAzdnhDWFBIZW1BPTwvZHM6RGlnZXN0VmFsdWU+PC9kczpSZWZlcmVuY2U
+PGRzOlJlZmVyZW5jZSBVUkk9IiNfMWRlNTg5OGMtNmY3Ny00ZDViLTlkZDgtMzE4MWM5MT
E3Yzk3Ij48ZHM6VHJhbnNmb3Jtcz48ZHM6VHJhbnNmb3JtIEFsZ29yaXRobT0iaHR0cDovL
3d3dy53My5vcmcvMjAwMS8xMC94bWwtZXhjLWMxNG4jIi8+PC9kczpUcmFuc2Zvcm1zPjxk
czpEaWdlc3RNZXRob2QgQWxnb3JpdGhtPSJodHRwOi8vd3d3LnczLm9yZy8yMDAxLzA0L3h
tbGVuYyNzaGEyNTYiLz48ZHM6RGlnZXN0VmFsdWU+NHBiU0M2M2xObVBxelc3TDBNRDBxZ0
5GNHc5SUE3YXQ3OWxEVE5VZjBndz08L2RzOkRpZ2VzdFZhbHVlPjwvZHM6UmVmZXJlbmNlP
jwvZHM6U2lnbmVkSW5mbz48ZHM6U2lnbmF0dXJlVmFsdWUgSWQ9Il9hODAwZmIwNS02NjRh
LTQ2OTItYjM5MS04OTM4NTlhNTM0OGQiPlc5VHAxQ09HeEk4dlZQNkZONEdpYlhtc3RRM1Z
0bmpSZVN3VVdicFZCTEtmenZ1L1c1OGNoOUdxdnRQTm9HZTdXOXVvQUt0U1J0MUkKMzdPeD
IwQmVQb2xGdWZmekVVR3NGMHBETkRoWmNiRUdEMlVWRTBpYnhIRkVDUU13d0ppK1NVb2ora
3JIWmRXM0FybmNaZ0RkMkhXZgpudVJZSmVucnpCS2k2RG1YVlVRYlhXRFVkbGxzcjlDSmtB
THYrd0s2V2RweE9Na0NTc2E0WUU2bEVNTjVXNGhzUXFlZ2N6ZGkwdUZ0CnZxQ2JLVnM3RTJ
3c0VIZC94aUxzbldZNEUxNWdLNnI0UW9tWHJqdFI0ZkFyZ1lMTnRLK09NRCt6UktNeGNuNV
F2QzJVeHlzNUV6RHcKNmhlenYrdXBxTldkRjRYL2lCNW1JY25DMzAraVBpY3lDb2JHUlE9P
TwvZHM6U2lnbmF0dXJlVmFsdWU+PGRzOktleUluZm8gSWQ9Il8xZGU1ODk4Yy02Zjc3LTRk
NWItOWRkOC0zMTgxYzkxMTdjOTciPjxkczpYNTA5RGF0YT48ZHM6WDUwOUNlcnRpZmljYXR
lPk1JSUZMekNDQkJlZ0F3SUJBZ0lnTHJBYmV2b2FlNTJ5M2Y2QzJ0QjBTbjNwN1hKbTBUMD
JGb2d4S0NmTmhYb3dEUVlKS29aSWh2Y04KQVFFTEJRQXdmREVMTUFrR0ExVUVCaE1DVlZNe
FBEQTZCZ05WQkFvVE0wbHVkR1Z5Ym1WMElFTnZjbkJ2Y21GMGFXOXVJR1p2Y2lCQgpjM05w
WjI1bFpDQk9ZVzFsY3lCaGJtUWdUblZ0WW1WeWN6RXZNQzBHQTFVRUF4TW1TVU5CVGs0Z1Z
ISmhaR1Z0WVhKcklFTnNaV0Z5CmFXNW5hRzkxYzJVZ1VHbHNiM1FnUTBFd0hoY05NVE13Tm
pJMk1EQXdNREF3V2hjTk1UZ3dOakkxTWpNMU9UVTVXakNCanpFTE1Ba0cKQTFVRUJoTUNRa
1V4SURBZUJnTlZCQWdURjBKeWRYTnpaV3h6TFVOaGNHbDBZV3dnVW1WbmFXOXVNUkV3RHdZ
RFZRUUhFd2hDY25WegpjMlZzY3pFUk1BOEdBMVVFQ2hNSVJHVnNiMmwwZEdVeE9EQTJCZ05
WQkFNVEwwbERRVTVPSUZSTlEwZ2dRWFYwYUc5eWFYcGxaQ0JVCmNtRmtaVzFoY21zZ1VHbH
NiM1FnVm1Gc2FXUmhkRzl5TUlJQklqQU5CZ2txaGtpRzl3MEJBUUVGQUFPQ0FROEFNSUlCQ
2dLQ0FRRUEKeGxwM0twWUhYM1d5QXNGaFNrM0x3V2ZuR2x4blVERnFGWkEzVW91TVlqL1hp
Z2JNa05lRVhJamxrUk9LVDRPUEdmUngvTEF5UmxRUQpqQ012NHFoYmtjWDFwN2FyNjNmbHE
0U1pOVmNsMTVsN2gwdVQ1OEZ6U2ZubHowdTVya0hmSkltRDQzK21hUC84Z3YzNkZSMjdqVz
hSCjl3WTRoaytXczRJQjBpRlNkOFNYdjFLcjh3L0ptTVFTRGtpdUcrUmZJaXVid1EvZnk3R
WtqNVFXaFBadyttTXhOS25IVUx5M3hZejIKTHdWZmZ0andVdWVhY3ZxTlJDa01YbENsT0FE
cWZUOG9TWm9lRFhlaEh2bFBzTENlbUdCb1RLdXJza0lTNjlGMHlQRUg1Z3plMEgrZgo4RlJ

Pc0lvS1NzVlEzNEI0Uy9qb0U2N25wc0pQVGRLc05QSlR5UUlEQVFBQm80SUJoekNDQVlNd0
RBWURWUjBUQVFIL0JBSXdBREFkCkJnTlZIUTRFRmdRVW9GcFk3NnA1eW9ORFJHdFFwelZ1U
jgxVVdRMHdnY1lHQTFVZEl3U0J2akNCdTRBVXc2MCtwdFlSQUVXQVhEcFgKU29wdDNERU5u
bkdoZ1lDa2ZqQjhNUXN3Q1FZRFZRUUdFd0pWVXpFOE1Eb0dBMVVFQ2hNelNXNTBaWEp1Wlh
RZ1EyOXljRzl5WVhScApiMjRnWm05eUlFRnpjMmxuYm1Wa0lFNWhiV1Z6SUdGdVpDQk9kVz
FpWlhKek1TOHdMUVlEVlFREV5WkpRMEZPVGlCVWNtRmtaVzFoCmNtc2dRMnhsWVhKcGJtZ
G9iM1Z6WlNCUWFXeHZkQ0JEUVlJZ0xyQWJldm9hZTUyeTNmNkMydEIwU24zcDdYSm0wVDAy
Rm9neEtDZk4KaFhrd0RnWURWUjBQQVFIL0JBUURBZ2VBTURRR0ExVWRId1F0TUNzd0thQW5
vQ1dHSTJoMGRIQTZMeTlqY213dWFXTmhibTR1YjNKbgpMM1J0WTJoZmNHbHNiM1F1WTNKc0
1FVUdBMVVkSUFRK01Ed3dPZ1lES2dNRU1ETXdNUVlJS3dZQkJRVUhBZ0VXSldoMGRIQTZMe
TkzCmQzY3VhV05oYm00dWIzSm5MM0JwYkc5MFgzSmxjRzl6YVhSdmNua3dEUVlKS29aSWh2
Y05BUUVMQlFBRGdnRUJBSWVEWVlKcjYwVzMKeTlRcyszelJWSTlrZWtLb201dmtIT2FsQjN
3SGFaSWFBRllwSTk4dFkwYVZOOWFHT04wdjZXUUYrbnZ6MUtSWlFiQXowMUJYdGFSSgo0bV
BrYXJoaHVMbjlOa0J4cDhIUjVxY2MrS0g3Z3Y2ci9jMGlHM2JDTkorUVNyN1FmKzVNbE1vN
npMNVVkZFUvVDJqaWJNWENqL2YyCjFRdzN4OVFnb3lYTEZKOW96YUxnUTlSTWtMbE9temtD
QWlYTjVBYjQzYUo5ZjdOMmdFMk5uUmpOS21tQzlBQlEwVFJ3RUtWTGhWbDEKVUdxQ0hKM0F
sQlhXSVhONXNqUFFjRC8rbkhlRVhNeFl2bEF5cXhYb0QzTVd0UVZqN2oyb3FsYWtPQk1nRz
grcTJxWWxtQnRzNEZOaQp3NzQ4SWw1ODZIS0JScXhIdFpkUktXMlZxYVE9PC9kczpYNTA5Q
2VydGlmaWNhdGU+PC9kczpYNTA5RGF0YT48L2RzOktleUluZm8+PC9kczpTaWduYXR1cmU+
PC9zbWQ6c2lnbmVkTWFyaz4=
</smd:encodedSignedMark>

3. Formal Syntax

Two schemas are presented here. The first schema is the schema for the Signed Mark. The second schema is the schema for the Mark.

The formal syntax presented here is a complete schema representation of the object mapping suitable for automated validation of EPP XML instances. The BEGIN and END tags are not part of the schema; they are used to note the beginning and ending of the schema for URI registration purposes.

3.1. Signed Mark Schema

```
BEGIN
<?xml version="1.0" encoding="UTF-8"?>
<schema
  targetNamespace="urn:ietf:params:xml:ns:signedMark-1.0"
  xmlns:smd="urn:ietf:params:xml:ns:signedMark-1.0"
  xmlns:mark="urn:ietf:params:xml:ns:mark-1.0"
  xmlns:dsig="http://www.w3.org/2000/09/xmldsig#"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Schema for representing a Signed Trademark.
    </documentation>
  </annotation>

  <import namespace="urn:ietf:params:xml:ns:mark-1.0"
    schemaLocation="mark-1.0.xsd" />
  <import namespace="http://www.w3.org/2000/09/xmldsig#"
    schemaLocation="xmldsig-core-schema.xsd"/>

  <!--
  Abstract signed mark for replacement via substitution.
  -->
  <element name="abstractSignedMark" type="smd:abstractSignedMarkType"
    abstract="true"/>

  <!--
```

```
    Empty type for use in extending for a signed mark
    -->
    <complexType name="abstractSignedMarkType"/>


    <element name="signedMark" type="smd:signedMarkType"
      substitutionGroup="smd:abstractSignedMark"/>

    <element name="encodedSignedMark" type="smd:encodedSignedMarkType"/>


    <complexType name="signedMarkType">
      <complexContent>
        <extension base="smd:abstractSignedMarkType">
          <sequence>
            <element name="id" type="mark:idType"/>
            <element name="issuerInfo" type="smd:issuerInfoType"/>
            <element name="notBefore" type="dateTime"/>
            <element name="notAfter" type="dateTime"/>
            <element ref="mark:abstractMark"/>
            <element ref="dsig:Signature"/>
          </sequence>
          <attribute name="id" type="ID" use="required"/>
        </extension>
      </complexContent>
    </complexType>

    <complexType name="issuerInfoType">
      <sequence>
        <element name="org" type="token"/>
        <element name="email" type="mark:minTokenType"/>
        <element name="url" type="token" minOccurs="0"/>
        <element name="voice" type="mark:e164Type" minOccurs="0"/>
      </sequence>
      <attribute name="issuerID" type="token" use="required"/>
    </complexType>


    <complexType name="encodedSignedMarkType">
      <simpleContent>
        <extension base="token">
          <attribute name="encoding" type="token" default="base64"/>
        </extension>
      </simpleContent>
    </complexType>
  </schema>
  END
```

3.2. Mark Schema


```
BEGIN
<?xml version="1.0" encoding="UTF-8"?>
<schema
  targetNamespace="urn:ietf:params:xml:ns:mark-1.0"
  xmlns:mark="urn:ietf:params:xml:ns:mark-1.0"
  xmlns="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">

  <annotation>
    <documentation>
      Schema for representing a Trademark, also referred to
      as Mark.
    </documentation>
  </annotation>
```

```
<!--
Abstract mark for replacement via substitution.
-->
<element name="abstractMark" type="mark:abstractMarkType"
  abstract="true"/>

<!--
<mark:mark> element definition
-->
<element name="mark" type="mark:markType"
  substitutionGroup="mark:abstractMark"/>

<!--
Empty type for use in extending for a mark
-->
<complexType name="abstractMarkType"/>

<!--
<mark:mark> child elements
-->
<complexType name="markType">
  <complexContent>
    <extension base="mark:abstractMarkType">
      <sequence>
        <element name="trademark" type="mark:trademarkType"
          minOccurs="0" maxOccurs="unbounded"/>
        <element name="treatyOrStatute"
          type="mark:treatyOrStatuteType" minOccurs="0"
                      maxOccurs="unbounded"/>
        <element name="court" type="mark:courtType" minOccurs="0"
          maxOccurs="unbounded"/>
      </sequence>
    </extension>
  </complexContent>
</complexType>

<complexType name="holderType">
  <sequence>
    <element name="name" type="token" minOccurs="0"/>
    <element name="org" type="token" minOccurs="0"/>
    <element name="addr" type="mark:addrType"/>
    <element name="voice" type="mark:e164Type" minOccurs="0"/>
    <element name="fax" type="mark:e164Type" minOccurs="0"/>
    <element name="email" type="mark:minTokenType" minOccurs="0"/>
  </sequence>
  <attribute name="entitlement" type="mark:entitlementType"/>
</complexType>
```

```
   <complexType name="contactType">
     <sequence>
       <element name="name" type="token"/>
       <element name="org" type="token" minOccurs="0"/>
       <element name="addr" type="mark:addrType"/>
       <element name="voice" type="mark:e164Type"/>
       <element name="fax" type="mark:e164Type" minOccurs="0"/>
       <element name="email" type="mark:minTokenType"/>
     </sequence>
     <attribute name="type" type="mark:contactTypeType"/>
   </complexType>

   <complexType name="trademarkType">
     <sequence>
       <element name="id" type="mark:idType"/>
       <element name="markName" type="token"/>
       <element name="holder" type="mark:holderType"
         maxOccurs="unbounded" />
       <element name="contact" type="mark:contactType" minOccurs="0"
         maxOccurs="unbounded"/>
       <element name="jurisdiction" type="mark:ccType"/>
       <element name="class" type="integer" minOccurs="0"
         maxOccurs="unbounded"/>
       <element name="label" type="mark:labelType" minOccurs="0"
         maxOccurs="unbounded"/>
       <element name="goodsAndServices" type="token" />
       <element name="apId" type="token" minOccurs="0"/>
       <element name="apDate" type="dateTime" minOccurs="0"/>
       <element name="regNum" type="token"/>
       <element name="regDate" type="dateTime"/>
       <element name="exDate" type="dateTime" minOccurs="0"/>
     </sequence>
   </complexType>

   <complexType name="treatyOrStatuteType">
     <sequence>
       <element name="id" type="mark:idType"/>
       <element name="markName" type="token"/>
       <element name="holder" type="mark:holderType"
         maxOccurs="unbounded" />
       <element name="contact" type="mark:contactType" minOccurs="0"
         maxOccurs="unbounded"/>
       <element name="protection" type="mark:protectionType"
         maxOccurs="unbounded"/>
       <element name="label" type="mark:labelType" minOccurs="0"
         maxOccurs="unbounded"/>
       <element name="goodsAndServices" type="token" />
       <element name="refNum" type="token"/>
```

```
      <element name="proDate" type="dateTime"/>
      <element name="title" type="token"/>
      <element name="execDate" type="dateTime"/>
    </sequence>
  </complexType>

  <complexType name="courtType">
    <sequence>
      <element name="id" type="mark:idType"/>
      <element name="markName" type="token"/>
      <element name="holder" type="mark:holderType"
        maxOccurs="unbounded" />
      <element name="contact" type="mark:contactType" minOccurs="0"
        maxOccurs="unbounded"/>
      <element name="label" type="mark:labelType" minOccurs="0"
        maxOccurs="unbounded"/>
      <element name="goodsAndServices" type="token" />
      <element name="refNum" type="token"/>
      <element name="proDate" type="dateTime"/>
      <element name="cc" type="mark:ccType"/>
      <element name="region" type="token" minOccurs="0"
        maxOccurs="unbounded"/>
      <element name="courtName" type="token"/>
    </sequence>
  </complexType>

  <!--
  Address (<mark:addr>) child elements
  -->
  <complexType name="addrType">
    <sequence>
      <element name="street" type="token" minOccurs="1" maxOccurs="3"/>
      <element name="city" type="token"/>
      <element name="sp" type="token" minOccurs="0"/>
      <element name="pc" type="mark:pcType" minOccurs="0"/>
      <element name="cc" type="mark:ccType"/>
    </sequence>
  </complexType>

  <!--
  <mark:protection> child elements
  -->
  <complexType name="protectionType">
    <sequence>
      <element name="cc" type="mark:ccType"/>
      <element name="region" type="token" minOccurs="0"/>
      <element name="ruling" type="mark:ccType"
        minOccurs="0" maxOccurs="unbounded"/>
```

```
    </sequence>
  </complexType>

  <!--
  Postal code definition
  -->
  <simpleType name="pcType">
    <restriction base="token">
      <maxLength value="16"/>
    </restriction>
  </simpleType>

  <!--
  Country code definition
  -->
  <simpleType name="ccType">
    <restriction base="token">
      <length value="2"/>
    </restriction>
  </simpleType>

  <!--
  Phone number with extension definition
  -->
  <complexType name="e164Type">
    <simpleContent>
      <extension base="mark:e164StringType">
        <attribute name="x" type="token"/>
      </extension>
    </simpleContent>
  </complexType>

  <!--
  Phone number with extension definition
  -->
  <simpleType name="e164StringType">
    <restriction base="token">
      <pattern value="(\+[0-9]{1,3}\.[0-9]{1,14})?"/>
      <maxLength value="17"/>
    </restriction>
  </simpleType>

  <!--
  Id type definition
  -->
  <simpleType name="idType">
    <restriction base="token">
      <pattern value="\d+-\d+"/>
```

```
    </restriction>
  </simpleType>

  <!--
  DNS label type definition
  -->
  <simpleType name="labelType">
    <restriction base="token">
      <minLength value="1"/>
      <maxLength value="63"/>
      <pattern value="[a-zA-Z0-9]([a-zA-Z0-9\-]*[a-zA-Z0-9])?"/>
    </restriction>
  </simpleType>

  <!--
  Type used for email addresses
  -->
  <simpleType name="minTokenType">
    <restriction base="token">
      <minLength value="1"/>
    </restriction>
  </simpleType>

  <simpleType name="entitlementType">
    <restriction base="token">
      <enumeration value="owner"/>
      <enumeration value="assignee"/>
      <enumeration value="licensee"/>
    </restriction>
  </simpleType>

  <simpleType name="contactTypeType">
    <restriction base="token">
      <enumeration value="owner"/>
      <enumeration value="agent"/>
      <enumeration value="thirdparty"/>
    </restriction>
  </simpleType>
</schema>
END
```

4. Implementation Status

Note to RFC Editor: Please remove this section and the reference to RFC 6982 [RFC6982] before publication.

This section records the status of known implementations of the

format defined by this specification at the time of posting of this Internet-Draft, and is based on a proposal described in RFC 6982 [RFC6982]. The description of implementations in this section is intended to assist the IETF in its decision processes in progressing drafts to RFCs. Please note that the listing of any individual implementation here does not imply endorsement by the IETF. Furthermore, no effort has been spent to verify the information presented here that was supplied by IETF contributors. This is not intended as, and must not be construed to be, a catalog of available implementations or their features. Readers are advised to note that other implementations may exist.

According to RFC 6982 [RFC6982], "this will allow reviewers and working groups to assign due consideration to documents that have the benefit of running code, which may serve as evidence of valuable experimentation and feedback that have made the implemented protocols more mature. It is up to the individual working groups to use this information as they see fit".

4.1. Verisign EPP SDK

Organization: Verisign Inc.

Name: Verisign EPP SDK

Description: The Verisign EPP SDK includes both a full client implementation and a full server stub implementation of draft-ietf-eppext-tmch-smd.

Level of maturity: Production

Coverage: All aspects of the draft-ietf-eppext-tmch-smd are implemented.

Licensing: GNU Lesser General Public License

Contact: jgould@verisign.com

URL: http://www.verisigninc.com/en_US/channel-resources/domain-registry-products/epp-sdks

4.2. Verisign Consolidated Top Level Domain (CTLD) SRS

Organization: Verisign Inc.

Name: Verisign Consolidated Top Level Domain (CTLD) Shared Registry System (SRS)

Description: The Verisign Consolidated Top Level Domain (CTLD) Shared Registry System (SRS) implements the server-side of draft-ietf-eppext-tmch-smd for a variety of Top Level Domains (TLD's).

Level of maturity: Production

Coverage: Implements parsing and validation of all aspects of draft-ietf-eppext-tmch-smd including the Signed Mark, the Encoded Signed Mark, and the contained Mark. Implements the encoding of the Mark in supporting the response of draft-ietf-eppext-launchphase.

Licensing: Proprietary

Contact: jgould@verisign.com

4.3. Verisign .COM / .NET SRS

Organization: Verisign Inc.

Name: Verisign .COM / .NET Shared Registry System (SRS)

Description: The Verisign Shared Registry System (SRS) for .COM, .NET and other IDN TLD's implements the server-side of draft-ietf-eppext-tmch-smd.

Level of maturity: Operational Test Environment (OTE)

Coverage: Implements parsing and validation of all aspects of draft-ietf-eppext-tmch-smd including the Signed Mark, the Encoded Signed Mark, and the contained Mark.

Licensing: Proprietary

Contact: jgould@verisign.com

4.4. REngin v3.7

Organisation: Domain Name Services (Pty) Ltd

Name: REngin v3.7

Description: Server side implementation only

Level of maturity: Production

Coverage: All aspects of draft-ietf-eppext-tmch-smd have been implemented

Licensing: Proprietary Licensing with Maintenance Contracts

Contact: info@dnservices.co.za

URL: http://domain-name.services

4.5. Uniregistry Corp. Shared Registry System (uSRS)

Organization: Uniregistry Corp.

Name: Uniregistry Corp. Shared Registry System (uSRS)

Description: Uniregistry’s Shared Registry System implements the server-side of draft-ietf-eppext-tmch-smd for its TLD registry.

Level of maturity: Production

Coverage: Implements parsing and validation of all aspects of draft-ietf-eppext-tmch-smd including the Signed Mark, the Encoded Signed Mark, and the contained Mark. Implements the encoding of the Mark in supporting the response of draft-ietf-eppext-launchphase.

Licensing: Proprietary

Contact: fobispo@uniregistry.link

5. Acknowledgements

Special thanks to Chris Wright for creating the first prototype of a SMD; James Gould, Wil Tan and Gavin Brown for creating the mark and SMD definitions in their EPP draft launch extension on which this draft is based.

6. Change History

Version draft-ietf-eppext-tmch-smd-00 to version draft-ietf-eppext-tmch-smd-01

Implementation Status section added.

Added type to the enconding element.

Version draft-lozano-tmch-smd-03 to version draft-ietf-eppext-tmch-smd-00

Internet-Draft resubmitted.

Version 02 to version 03

<smd:signedMark> example is now aligned with ICANN test SMDs.

<smd:encodedSignedMark> example is replaced with a public ICANN test SMD.

Several recommendations where added.

Version 01 to version 02

Change apID and regNum of trademark validated mark to token.

Change refNum of treatyOrStatute validated mark to token.

Change refNum of court validated mark to token.

Version 00 to version 01

Add missing email element to holderType.

Change ruling from an attribute to an element.

Version preview-01 to version 00

signedMarkType now ref mark:abstractMark.

Security section completed.

Version preview-00 to preview-01

Full example of an encodedSignedMark added.

signedMark example now fully validates with XSD.

Fixed labelType to allow two-character labels.

Missing mark:protectionType added in the XSD.

Issuer email is now required.

7. IANA Considerations

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

Registration request for the Signed mark namespace:

URI: urn:ietf:params:xml:ns:signedMark-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 Mark namespace:

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

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

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

8. Security Considerations

The object mapping described in this document does not provide any security services or introduce any additional considerations.

9. Normative References

[ISO3166-2] ISO, "International Standard for country codes and codes for their subdivisions", 2006.

[RFC2045] Freed, N. and N. Borenstein, "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies", RFC 2045, November 1996.

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

[RFC3688] Mealling, M., "The IETF XML Registry", BCP 81, RFC 3688,

January 2004.

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

[RFC6982] Sheffer, Y. and A. Farrel, "Improving Awareness of Running Code: The Implementation Status Section", RFC 6982, July 2013.

[WIPO.ST3] WIPO, "Recommended standard on two-letter codes for the representation of states, other entities and intergovernmental organizations", March 2007.

[1] <http://www.wipo.int/classifications/nivilo/nice/index.htm>

[2] <http://www.w3.org/TR/xmldsig-core/>

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