         Update of Legacy IANA Registrations of Enumservices

Abstract

   This document revises all Enumservices that were IANA registered
   under the now obsolete specification of the Enumservice registry
   defined in RFC 3761.

Status of This Memo

   This is an Internet Standards Track document.

   This document is a product of the Internet Engineering Task Force
   (IETF). It represents the consensus of the IETF community. It has
   received public review and has been approved for publication by the
   Internet Engineering Steering Group (IESG). Further information on
   Internet Standards is available in Section 2 of RFC 5741.

   Information about the current status of this document, any errata,
   and how to provide feedback on it may be obtained at
   http://www.rfc-editor.org/info/rfc6118.

Table of Contents

1. Introduction

   [RFC6117] has obsoleted the IANA registration section of [RFC3761].
   Since the IANA Enumservice registry contains various Enumservices
   registered under the regime of RFC 3761, those registrations do not
   conform to the new guidelines as specified in [RFC6117]. To ensure
   consistency among all Enumservice registrations at IANA, this
   document adds the (nowadays) missing elements to those legacy
   registrations. Furthermore, all legacy Enumservice registrations are
   converted to the new XML-chunk format, and, where deemed necessary,
   minor editorial corrections are applied.

   However, this document only adds the missing elements to the XML
   chunks as specified in the IANA Considerations section of [RFC6117],
   but it does not complete the (nowadays) missing sections of the
   corresponding Enumservice Specifications. In order to conform with
   the new registration regime as specified in [RFC6117], those
   Enumservice Specifications still have to be revised.

   It is important to note that this document does not update the
   functional specification of the concerned Enumservices.

   The following RFCs are updated by this document:

   o [RFC3762]
   o [RFC3764]
   o [RFC3953]
   o [RFC4143]
   o [RFC4002]
   o [RFC4238]
   o [RFC4355]
   o [RFC4415]
   o [RFC4769]
   o [RFC4969]
   o [RFC4979]
   o [RFC5028]
   o [RFC5278]
   o [RFC5333]

2. 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].

3. IESG Action

   According to [RFC3761], any Enumservice registration had to be
   published as a Standards Track, Experimental, or BCP (Best Current
   Practice) RFC. [RFC6117] no longer has this requirement, i.e.,
   "Specification Required", which implies the use of a Designated
   Expert [RFC5226], is sufficient.

   This document changes the approval requirement for updates to
   Enumservice registrations to Specification Required, whereby the
   specification and request are reviewed by a Designated Expert as
   described in [RFC6117].

4. Legacy Enumservice Registrations Converted to XML Chunks

   In the following, the legacy Enumservice Registrations are converted
   to XML chunks that include the new elements introduced by [RFC6117].

   (Note that references in Sections 4.1 - 4.39 refer to the references
   section within the respective Enumservice Specification.)

4.1. email:mailto

```
     <record>
       <!-- email:mailto -->
       <class>Application-Based, Common</class>
       <type>email</type>
       <subtype>mailto</subtype>
       <urischeme>mailto</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource can be
           addressed by the associated URI in order to send an
           email.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc4355"/>, Section 6.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Rudolf_Brandner"/>
         <xref type="person" data="Lawrence_Conroy"/>
         <xref type="person" data="Richard_Stastny"/>
```

```
          </requesters>
        </record>

4.2.  ems:mailto

      <record>
        <!-- ems:mailto -->
        <class>Application-Based, Common</class>
        <type>ems</type>
        <subtype>mailto</subtype>
        <urischeme>mailto</urischeme>
        <functionalspec>
          <paragraph>
            This Enumservice indicates that the resource
            identified by the associated URI is capable
            of receiving a message using an email protocol.
          </paragraph>
          <paragraph>
            EMS content is sent over SMTP using the format
            specified by TS 23.140 [15] Section 8.4.4 and TS
            26.140 [16] Section 4, as an MMS message.  Within
            such a message, EMS content is carried as either a
            text or application/octet-stream MIME sub-part (see
            TS 26.140 [16], Section 4.1).
          </paragraph>
          <paragraph>
            References are contained in <xref type="rfc" data="rfc4355"/>.
          </paragraph>
        </functionalspec>
        <security>
          <paragraph>
            There are no specific security issues with this
            Enumservice.  However, the general considerations of
            Section 6 of <xref type="rfc" data="rfc4355"/> apply.
          </paragraph>
        </security>
        <usage>COMMON</usage>
        <registrationdocs>
          <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
          <xref type="rfc" data="RFC 6118"/>
        </registrationdocs>
        <requesters>
          <xref type="person" data="Rudolf_Brandner"/>
          <xref type="person" data="Lawrence_Conroy"/>
          <xref type="person" data="Richard_Stastny"/>
        </requesters>
      </record>
```

4.3. ems:tel

```
    <record>
      <!-- ems:tel -->
      <class>Application-Based, Common</class>
      <type>ems</type>
      <subtype>tel</subtype>
      <urischeme>tel</urischeme>
      <functionalspec>
        <paragraph>
          This Enumservice indicates that the resource
          identified by the associated URI is capable
          of receiving a message using the Enhanced Message
          Service (EMS) [14].
        </paragraph>
        <paragraph>
          References are contained in <xref type="rfc" data="rfc4355"/>.
        </paragraph>
      </functionalspec>
      <security>
        <paragraph>
          There are no specific security issues with this
          Enumservice.  However, the general considerations of
          Section 6 of <xref type="rfc" data="rfc4355"/> apply.
        </paragraph>
      </security>
      <usage>COMMON</usage>
      <registrationdocs>
        <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
        <xref type="rfc" data="RFC 6118"/>
      </registrationdocs>
      <requesters>
        <xref type="person" data="Rudolf_Brandner"/>
        <xref type="person" data="Lawrence_Conroy"/>
        <xref type="person" data="Richard_Stastny"/>
      </requesters>
      <additionalinfo>
        <paragraph>
          Note that an indication of EMS can be taken as
          implying that the recipient is capable of receiving
          SMS messages at this address as well.
        </paragraph>
      </additionalinfo>
    </record>
```

4.4. fax:tel

```
<record>
  <!-- fax:tel -->
  <class>Application-Based, Subset</class>
  <type>fax</type>
  <subtype>tel</subtype>
  <urischeme>tel</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of being contacted to provide a communication
      session during which facsimile documents can be
      sent.
    </paragraph>
    <paragraph>
      A client selecting this NAPTR will have support
      for generating and sending facsimile documents to
      the recipient using the PSTN session and transfer
      protocols specified in [12] and [13] in
      <xref type="rfc" data="rfc4355"/> -
      in short, they will have a fax program with a local
      or shared PSTN access over which they can send
      faxes.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4355"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4355"/>, Section 6.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.5. ft:ftp

```
<record>
  <!-- ft:ftp -->
  <class>Application-Based, Subset</class>
  <type>ft</type>
  <subtype>ftp</subtype>
  <urischeme>ftp</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is a file
      service from which a file or file listing can be
      retrieved.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4002"/>, Section 5.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4002"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.6. h323

```
     <record>
       <!-- h323 -->
       <class>Protocol-Based</class>
       <type>h323</type>
       <!-- No subtype -->
       <urischeme>h323</urischeme>
       <functionalspec>
         See <xref type="rfc" data="rfc3762"/>, Section 3.
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc3762"/>, Section 5.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc3762"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Orit_Levin"/>
       </requesters>
     </record>
```

4.7. ical-access:http

```
     <record>
       <!-- ical-access:http -->
       <class>Application-Based, Common</class>
       <type>ical-access</type>
       <subtype>http</subtype>
       <urischeme>http</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource identified
           can be addressed by the associated URI in order to access
           a user's calendar (for example free/busy status) using
           the CalDAV [7] protocol for Internet calendaring.
         </paragraph>
         <paragraph>
           References are contained in <xref type="rfc" data="rfc5333"/>.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc5333"/>, Section 4.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc5333"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Rohan_Mahy"/>
       </requesters>
     </record>
```

4.8.   ical-access:https

```
<record>
  <!-- ical-access:https -->
  <class>Application-Based, Common</class>
  <type>ical-access</type>
  <subtype>https</subtype>
  <urischeme>https</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified
      can be addressed by the associated URI in order to access
      a user's calendar (for example free/busy status) using
      the CalDAV [7] protocol for Internet calendaring.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5333"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5333"/>, Section 4.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5333"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rohan_Mahy"/>
  </requesters>
</record>
```

4.9. ical-sched:mailto

```
<record>
  <!-- ical-sched:mailto -->
  <class>Application-Based, Common</class>
  <type>ical-sched</type>
  <subtype>mailto</subtype>
  <urischeme>mailto</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified
      can be addressed by the associated URI used for
      scheduling using Internet calendaring via Internet mail
      with the iMIP [6] protocol.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5333"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5333"/>, Section 4.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5333"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rohan_Mahy"/>
  </requesters>
</record>
```

4.10.   ifax:mailto

```
     <record>
       <!-- ifax:mailto -->
       <class>Application-Based, Subset</class>
       <type>ifax</type>
       <subtype>mailto</subtype>
       <urischeme>mailto</urischeme>
       <functionalspec>
         See <xref type="rfc" data="rfc4143"/>, Section 1.
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc4143"/>, Section 3.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc4143"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Kiyoshi_Toyoda"/>
         <xref type="person" data="Dave_Crocker"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           The URI Scheme is 'mailto' because facsimile is a
           profile of standard Internet mail and uses standard
           Internet mail addressing.
         </paragraph>
       </additionalinfo>
     </record>
```

4.11. im

```
<record>
  <!-- im -->
  <class>Application-Based, Common</class>
  <type>im</type>
  <!-- No subtype -->
  <urischeme>im</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified is an 'im:' URI.  The 'im:' URI scheme
      does not identify any particular protocol that will
      be used to handle instant messaging receipt or
      delivery, rather the mechanism in RFC 3861 [4] is
      used to discover whether an IM protocol supported by
      the party querying ENUM is also supported by the
      target resource.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5028"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5028"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5028"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rohan_Mahy"/>
  </requesters>
</record>
```

4.12. mms:mailto

```
<record>
  <!-- mms:mailto -->
  <class>Application-Based, Common</class>
  <type>mms</type>
  <subtype>mailto</subtype>
  <urischeme>mailto</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of receiving a message using an email protocol.
    </paragraph>
    <paragraph>
      MMS messages are sent over SMTP using the format
      specified by TS 23.140 [15] Section 8.4.4 and TS
      26.140 [16] Section 4.
    </paragraph>
    <paragraph>
      Within and between MMS Environments (MMSE,
      network infrastructures that support the MultiMedia
      Service), other pieces of state data (for example,
      charging-significant information) are exchanged
      between MMS Relay Servers.  Thus, although these
      servers use SMTP as the "bearer" for their
      application exchanges, they map their internal state
      to specialized header fields carried in the SMTP message
      exchanges.  The header fields used in such MMSE are
      described in detail in [17].
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4355"/>.
    </paragraph>
  </functionalspec>
  <security>
    <paragraph>
      There are no specific security issues with this
      Enumservice.  However, the general considerations of
      Section 6 of <xref type="rfc" data="rfc4355"/> apply.
    </paragraph>
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
```

```
         <xref type="person" data="Rudolf_Brandner"/>
         <xref type="person" data="Lawrence_Conroy"/>
         <xref type="person" data="Richard_Stastny"/>
      </requesters>
      <additionalinfo>
        <paragraph>
          The MMS Architecture describes an interface
          between the MMSE and "legacy messaging systems"
          (labelled as MM3) that accepts "standard" SMTP
          messages.  Thus, although the MMS Relay Server that
          supports this interface appears as a standard SMTP
          server from the perspective of an Internet-based
          mail server, it acts as a gateway and translator,
          adding the internal state data that is used within
          and between the MMS Environments.  This mechanism is
          described in [17], which also includes references to
          the specifications agreed by those bodies
          responsible for the design of the MMS.
        </paragraph>
        <paragraph>
          References are contained in <xref type="rfc" data="rfc4355"/>.
        </paragraph>
      </additionalinfo>
    </record>
```

4.13. mms:tel

```
<record>
  <!-- mms:tel -->
  <class>Application-Based, Common</class>
  <type>mms</type>
  <subtype>tel</subtype>
  <urischeme>tel</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of receiving a message using the Multimedia
      Messaging Service (MMS) [15].
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4355"/>.
    </paragraph>
  </functionalspec>
  <security>
    <paragraph>
      There are no specific security issues with this
      Enumservice.  However, the general considerations of
      Section 6 of <xref type="rfc" data="rfc4355"/> apply.
    </paragraph>
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Note that MMS can be used as an alternative to
      deliver an SMS RP-DATA RPDU if, for example, the
      SMS bearer is not supported.  If an entry includes
      this Enumservice, then in effect this can be taken
      as implying that the recipient is capable of
      receiving EMS or SMS messages at this address.  Such
      choices on the end system design do have two small
      caveats; whilst in practice all terminals supporting
      MMS today support SMS as well, it might not
      necessarily be the case in the future, and there may
```

```
          be tariff differences in using the MMS rather than
          using the SMS or EMS.
        </paragraph>
      </additionalinfo>
    </record>
```

4.14. pres

```
   <record>
     <!-- pres -->
     <class>Application-Based, Common</class>
     <type>pres</type>
     <!-- No subtype -->
     <urischeme>pres</urischeme>
     <functionalspec>
       See <xref type="rfc" data="rfc3953"/>, Section 4.
     </functionalspec>
     <security>
       See <xref type="rfc" data="rfc3953"/>, Section 6.
     </security>
     <usage>COMMON</usage>
     <registrationdocs>
       <xref type="rfc" data="rfc3953"/> (updated by RFC 6118)
       <xref type="rfc" data="RFC 6118"/>
     </registrationdocs>
     <requesters>
       <xref type="person" data="Jon_Peterson"/>
     </requesters>
     <additionalinfo>
       <paragraph>
         See <xref type="rfc" data="rfc3953"/>, Section 3.
       </paragraph>
     </additionalinfo>
   </record>
```

4.15. pstn:sip

```
      <record>
        <!-- pstn:sip -->
        <class>Application-Based, Common</class>
        <type>pstn</type>
        <subtype>sip</subtype>
        <urischeme>sip</urischeme>
        <functionalspec>
          <paragraph>
            These Enumservices indicate that the
            resource identified can be addressed by the
            associated URI in order to initiate a
            telecommunication session, which may include two-way
            voice or other communications, to the PSTN.
          </paragraph>
        </functionalspec>
        <security>
          See <xref type="rfc" data="rfc4769"/>, Section 7.
        </security>
        <usage>COMMON</usage>
        <registrationdocs>
          <xref type="rfc" data="rfc4769"/> (updated by RFC 6118)
          <xref type="rfc" data="RFC 6118"/>
        </registrationdocs>
        <requesters>
          <xref type="person" data="Jason_Livingood"/>
         <xref type="person" data="Richard_Shockey"/>
        </requesters>
        <additionalinfo>
          <paragraph>
            A Number Portability Dip Indicator (npdi) should
            be used in practice
            (see <xref type="rfc" data="rfc4769"/>, Section 4).
          </paragraph>
        </additionalinfo>
      </record>
```

4.16. pstn:tel

```
<record>
  <!-- pstn:tel -->
  <class>Application-Based, Ancillary</class>
  <type>pstn</type>
  <subtype>tel</subtype>
  <urischeme>tel</urischeme>
  <functionalspec>
    <paragraph>
      These Enumservices indicate that the
      resource identified can be addressed by the
      associated URI in order to initiate a
      telecommunication session, which may include two-way
      voice or other communications, to the PSTN.  These
      URIs may contain number portability data as
      specified in RFC4694 [10].
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4769"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4769"/>, Section 7.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4769"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Richard_Shockey"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      A Number Portability Dip Indicator (npdi) should
      be used in practice
      (see <xref type="rfc" data="rfc4769"/>, Section 4).
    </paragraph>
  </additionalinfo>
</record>
```

4.17. sip

```
<record>
  <!-- sip -->
  <class>Protocol-Based</class>
  <type>sip</type>
  <!-- No subtype -->
  <urischeme>sip</urischeme>
  <urischeme>sips</urischeme>
  <functionalspec>
    See <xref type="rfc" data="rfc3764"/>, Section 4.
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc3764"/>, Section 6.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc3764"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jon_Peterson"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      See <xref type="rfc" data="rfc3764"/>, Section 3.
    </paragraph>
  </additionalinfo>
</record>
```

4.18. sms:mailto

```
<record>
  <!-- sms:mailto -->
  <class>Application-Based, Common</class>
  <type>sms</type>
  <subtype>mailto</subtype>
  <urischeme>mailto</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of receiving a message using an email protocol.
    </paragraph>
    <paragraph>
      SMS content is sent over SMTP using the format
      specified by TS 23.140 [15] Section 8.4.4 and TS
      26.140 [16] Section 4, as an MMS message.  Within
      such a message, SMS content is carried as either a
      text or application/octet-stream MIME sub-part (see
      TS 26.140 [16], Section 4.1)
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4355"/>.
    </paragraph>
  </functionalspec>
  <security>
    <paragraph>
      There are no specific security issues with this
      Enumservice.  However, the general considerations of
      Section 6 of <xref type="rfc" data="rfc4355"/> apply.
    </paragraph>
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.19. sms:tel

```
<record>
  <!-- sms:tel -->
  <class>Application-Based, Common</class>
  <type>sms</type>
  <subtype>tel</subtype>
  <urischeme>tel</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of receiving a message using the Short Message
      Service (SMS) [14].
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4355"/>.
    </paragraph>
  </functionalspec>
  <security>
    <paragraph>
      There are no specific security issues with this
      Enumservice.  However, the general considerations of
      Section 6 of <xref type="rfc" data="rfc4355"/> apply.
    </paragraph>
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4355"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.20. unifmsg:http

```
<record>
  <!-- unifmsg:http -->
  <class>Application-Based, Common</class>
  <type>unifmsg</type>
  <subtype>http</subtype>
  <urischeme>http</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified by
      the associated URI scheme is capable of being a source of
      information.
    </paragraph>
    <paragraph>
      Note that the kind of information retrieved can be manifold.
      Usually, contacting a resource by an 'http:' [11] URI
      provides a document.  This document can contain references
      that will trigger the download of many different kinds of
      information, such as text, audio, video, executable code, or
      even video message files.  Thus, one cannot be more specific
      about the kind of information expected when contacting the
      resource.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5278"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Don_Troshynski"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Implementers should review a non-exclusive list of examples
      in Section 7 of <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </additionalinfo>
</record>
```

4.21. unifmsg:https

```
<record>
  <!-- unifmsg:https -->
  <class>Application-Based, Common</class>
  <type>unifmsg</type>
  <subtype>https</subtype>
  <urischeme>https</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified by
      the associated URI scheme is capable of being a source of
      information, which can be contacted using TLS or the Secure
      Socket Layer protocol.
    </paragraph>
    <paragraph>
      Note that the kind of information retrieved can be manifold.
      Usually, contacting a resource by an 'https:' [12] URI
      provides a document.  This document can contain references
      that will trigger the download of many different kinds of
      information, such as text, audio, video, executable code, or
      even video message files.  Thus, one cannot be more specific
      about the kind of information expected when contacting the
      resource.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5278"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Don_Troshynski"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Implementers should review a non-exclusive list of examples
      in Section 7 of <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </additionalinfo>
</record>
```

4.22. unifmsg:sip

```
     <record>
       <!-- unifmsg:sip -->
       <class>Application-Based, Common</class>
       <type>unifmsg</type>
       <subtype>sip</subtype>
       <urischeme>sip</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource identified can
           be addressed by the associated URI scheme in order to
           initiate a unified communication session to a unified
           messaging system.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc5278"/>, Section 3.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Jason_Livingood"/>
         <xref type="person" data="Don_Troshynski"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           Implementers should review a non-exclusive list of examples
           in Section 7 of <xref type="rfc" data="rfc5278"/>.
         </paragraph>
       </additionalinfo>
     </record>
```

4.23. unifmsg:sips

```
      <record>
        <!-- unifmsg:sips -->
        <class>Application-Based, Common</class>
        <type>unifmsg</type>
        <subtype>sips</subtype>
        <urischeme>sips</urischeme>
        <functionalspec>
          <paragraph>
            This Enumservice indicates that the resource identified can
            be addressed by the associated URI scheme in order to
            initiate a unified communication session to a unified
            messaging system.
          </paragraph>
        </functionalspec>
        <security>
          See <xref type="rfc" data="rfc5278"/>, Section 3.
        </security>
        <usage>COMMON</usage>
        <registrationdocs>
          <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
          <xref type="rfc" data="RFC 6118"/>
        </registrationdocs>
        <requesters>
          <xref type="person" data="Jason_Livingood"/>
          <xref type="person" data="Don_Troshynski"/>
        </requesters>
        <additionalinfo>
          <paragraph>
            Implementers should review a non-exclusive list of examples
            in Section 7 of <xref type="rfc" data="rfc5278"/>.
          </paragraph>
        </additionalinfo>
      </record>
```

4.24. vcard

```
<record>
  <!-- vcard -->
  <class>Data Type-Based</class>
  <type>vcard</type>
  <!-- No subtype -->
  <urischeme>http</urischeme>
  <urischeme>https</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified is a plain vCard, according to RFC2426,
      which may be accessed using HTTP / HTTPS [7].
    </paragraph>
    <paragraph>
      Clients fetching the vCard from the resource
      indicated should expect access to be
      restricted.  Additionally, the comprehension of the
      data provided may vary depending on the client's
      identity.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc4969"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4969"/>, Section 5.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4969"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Alexander_Mayrhofer"/>
  </requesters>
</record>
```

4.25. videomsg:http

```
<record>
  <!-- videomsg:http -->
  <class>Application-Based, Common</class>
  <type>videomsg</type>
  <subtype>http</subtype>
  <urischeme>http</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified by
      the associated URI scheme is capable of being a source of
      information.
    </paragraph>
    <paragraph>
      Note that the kind of information retrieved can be manifold.
      Usually, contacting a resource by an 'http:' [11] URI
      provides a document.  This document can contain references
      that will trigger the download of many different kinds of
      information, such as text, audio, video, executable code, or
      even video message files.  Thus, one cannot be more specific
      about the kind of information expected when contacting the
      resource.
    </paragraph>
    <paragraph>
      References are contained in <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5278"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Don_Troshynski"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Implementers should review a non-exclusive list of examples
      in Section 7 of <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </additionalinfo>
</record>
```

4.26. videomsg:https

```
     <record>
       <!-- videomsg:https -->
       <class>Application-Based, Common</class>
       <type>videomsg</type>
       <subtype>https</subtype>
       <urischeme>https</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource identified by
           the associated URI scheme is capable of being a source of
           information, which can be contacted using TLS or the Secure
           Socket Layer protocol.
         </paragraph>
         <paragraph>
           Note that the kind of information retrieved can be manifold.
           Usually, contacting a resource by an 'https:' [12] URI
           provides a document.  This document can contain references
           that will trigger the download of many different kinds of
           information, such as text, audio, video, executable code, or
           even video message files.  Thus, one cannot be more specific
           about the kind of information expected when contacting the
           resource.
         </paragraph>
         <paragraph>
           References are contained in <xref type="rfc" data="rfc5278"/>.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc5278"/>, Section 3.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Jason_Livingood"/>
         <xref type="person" data="Don_Troshynski"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           Implementers should review a non-exclusive list of examples
           in Section 7 of <xref type="rfc" data="rfc5278"/>.
         </paragraph>
       </additionalinfo>
     </record>
```

4.27. videomsg:sip

```
  <record>
    <!-- videomsg:sip -->
    <class>Application-Based, Common</class>
    <type>videomsg</type>
    <subtype>sip</subtype>
    <urischeme>sip</urischeme>
    <functionalspec>
      <paragraph>
        This Enumservice indicates that the resource identified can
        be addressed by the associated URI scheme in order to
        initiate a video communication session to a video messaging
        system.
      </paragraph>
    </functionalspec>
    <security>
      See <xref type="rfc" data="rfc5278"/>, Section 3.
    </security>
    <usage>COMMON</usage>
    <registrationdocs>
      <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
      <xref type="rfc" data="RFC 6118"/>
    </registrationdocs>
    <requesters>
      <xref type="person" data="Jason_Livingood"/>
      <xref type="person" data="Don_Troshynski"/>
    </requesters>
    <additionalinfo>
      <paragraph>
        Implementers should review a non-exclusive list of examples
        in Section 7 of <xref type="rfc" data="rfc5278"/>.
      </paragraph>
    </additionalinfo>
  </record>
```

4.28. videomsg:sips

```
     <record>
       <!-- videomsg:sips -->
       <class>Application-Based, Common</class>
       <type>videomsg</type>
       <subtype>sips</subtype>
       <urischeme>sips</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource identified can
           be addressed by the associated URI scheme in order to
           initiate a video communication session to a video messaging
           system.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc5278"/>, Section 3.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Jason_Livingood"/>
         <xref type="person" data="Don_Troshynski"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           Implementers should review a non-exclusive list of examples
           in Section 7 of <xref type="rfc" data="rfc5278"/>.
         </paragraph>
       </additionalinfo>
     </record>
```

4.29. voice:tel

```
<record>
  <!-- voice:tel -->
  <class>Application-Based, Common</class>
  <type>voice</type>
  <subtype>tel</subtype>
  <urischeme>tel</urischeme>
  <functionalspec>
    <paragraph>
      The kind of communication indicated by this
      Enumservice is "Interactive Voice".  From a protocol
      perspective, this communication is expected to
      involve bidirectional media streams carrying audio
      data.
    </paragraph>
    <paragraph>
      A client may imply that the person controlling
      population of a NAPTR holding this Enumservice
      indicates their capability to engage in an
      interactive voice session when contacted using the
      URI generated by this NAPTR.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4415"/>, Section 5.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4415"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      This Enumservice indicates that the person
      responsible for the NAPTR is accessible via the PSTN
      (Public Switched Telephone Network) or PLMN (Public
      Land Mobile Network) using the value of the
      generated URI.
    </paragraph>
    <paragraph>The kind of subsystem required to initiate a
      Voice Enumservice with this Subtype is a "Dialler".
      This is a subsystem that either provides a local
```

```
            connection to the PSTN or PLMN, or that provides an
            indirect connection to those networks.  The
            subsystem will use the telephone number held in the
            generated URI to place a voice call.  The voice call
            is placed to a network that uses E.164 numbers to
            route calls to an appropriate destination.
          </paragraph>
          <paragraph>
            Note that the PSTN/PLMN connection may be
            indirect.  The end user receiving this NAPTR may
            have a relationship with a Communications Service
            Provider that accepts call initiation requests from
            that subsystem using an IP-based protocol such as
            SIP or H.323, and places the call to the PSTN using
            a remote gateway service.  In this case, the Provider
            may either accept requests using "tel:" URIs or has
            a defined mechanism to convert "tel:" URI values
            into a "protocol-native" form.
          </paragraph>
          <paragraph>
            The "tel:" URI value SHOULD be fully qualified
            (using the "global phone number" form of RFC 3966
            [10]).  A "local phone number" as defined in that
            document SHOULD NOT be used unless the controller of
            the zone in which the NAPTR appears is sure that it
            can be distinguished unambiguously by all clients
            that can access the resource record and that a call
            from their network access points can be routed to
            that destination.
          </paragraph>
          <paragraph>
            References are contained in <xref type="rfc" data="rfc4415"/>.
          </paragraph>
        </additionalinfo>
      </record>
```

4.30. voicemsg:http

```
   <record>
     <!-- voicemsg:http -->
     <class>Application-Based, Common</class>
     <type>voicemsg</type>
     <subtype>http</subtype>
     <urischeme>http</urischeme>
     <functionalspec>
       <paragraph>
         This Enumservice indicates that the resource identified by
         the associated URI scheme is capable of being a source of
         information.
       </paragraph>
       <paragraph>
         Note that the kind of information retrieved can be manifold.
         Usually, contacting a resource by an 'http:' [11] URI
         provides a document.  This document can contain references
         that will trigger the download of many different kinds of
         information, such as text, audio, video, executable code, or
         even voice message files.  Thus, one cannot be more specific
         about the kind of information expected when contacting the
         resource.
       </paragraph>
       <paragraph>
         References are contained in <xref type="rfc" data="rfc5278"/>.
       </paragraph>
     </functionalspec>
     <security>
       See <xref type="rfc" data="rfc5278"/>, Section 3.
     </security>
     <usage>COMMON</usage>
     <registrationdocs>
       <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
       <xref type="rfc" data="RFC 6118"/>
     </registrationdocs>
     <requesters>
       <xref type="person" data="Jason_Livingood"/>
       <xref type="person" data="Don_Troshynski"/>
     </requesters>
     <additionalinfo>
       <paragraph>
         Implementers should review a non-exclusive list of examples
         in Section 7 of <xref type="rfc" data="rfc5278"/>.
       </paragraph>
     </additionalinfo>
   </record>
```

4.31. voicemsg:https

```
    <record>
      <!-- voicemsg:https -->
      <class>Application-Based, Common</class>
      <type>voicemsg</type>
      <subtype>https</subtype>
      <urischeme>https</urischeme>
      <functionalspec>
        <paragraph>
          This Enumservice indicates that the resource identified by
          the associated URI scheme is capable of being a source of
          information, which can be contacted using TLS or the Secure
          Socket Layer protocol.
        </paragraph>
        <paragraph>
          Note that the kind of information retrieved can be manifold.
          Usually, contacting a resource by an 'https:' [12] URI
          provides a document.  This document can contain references
          that will trigger the download of many different kinds of
          information, such as text, audio, video, executable code, or
          even voice message files.  Thus, one cannot be more specific
          about the kind of information expected when contacting the
          resource.
        </paragraph>
        <paragraph>
          References are contained in <xref type="rfc" data="rfc5278"/>.
        </paragraph>
      </functionalspec>
      <security>
        See <xref type="rfc" data="rfc5278"/>, Section 3.
      </security>
      <usage>COMMON</usage>
      <registrationdocs>
        <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
        <xref type="rfc" data="RFC 6118"/>
      </registrationdocs>
      <requesters>
        <xref type="person" data="Jason_Livingood"/>
        <xref type="person" data="Don_Troshynski"/>
      </requesters>
      <additionalinfo>
        <paragraph>
          Implementers should review a non-exclusive list of examples
          in Section 7 of <xref type="rfc" data="rfc5278"/>.
        </paragraph>
      </additionalinfo>
    </record>
```

4.32. voicemsg:sip

```
<record>
  <!-- voicemsg:sip -->
  <class>Application-Based, Common</class>
  <type>voicemsg</type>
  <subtype>sip</subtype>
  <urischeme>sip</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified can
      be addressed by the associated URI scheme in order to
      initiate a voice communication session to a voice messaging
      system.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5278"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Don_Troshynski"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Implementers should review a non-exclusive list of examples
      in Section 7 of <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </additionalinfo>
</record>
```

4.33. voicemsg:sips

```
<record>
  <!-- voicemsg:sips -->
  <class>Application-Based, Common</class>
  <type>voicemsg</type>
  <subtype>sips</subtype>
  <urischeme>sips</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource identified can
      be addressed by the associated URI scheme in order to
      initiate a voice communication session to a voice messaging
      system.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc5278"/>, Section 3.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Jason_Livingood"/>
    <xref type="person" data="Don_Troshynski"/>
  </requesters>
  <additionalinfo>
    <paragraph>
      Implementers should review a non-exclusive list of examples
      in Section 7 of <xref type="rfc" data="rfc5278"/>.
    </paragraph>
  </additionalinfo>
</record>
```

4.34. voicemsg:tel

```
     <record>
       <!-- voicemsg:tel -->
       <class>Application-Based, Common</class>
       <type>voicemsg</type>
       <subtype>tel</subtype>
       <urischeme>tel</urischeme>
       <functionalspec>
         <paragraph>
           This Enumservice indicates that the resource identified can
           be addressed by the associated URI scheme in order to
           initiate a voice communication session to a voice messaging
           system.
         </paragraph>
       </functionalspec>
       <security>
         See <xref type="rfc" data="rfc5278"/>, Section 3.
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc5278"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Jason_Livingood"/>
         <xref type="person" data="Don_Troshynski"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           Implementers should review a non-exclusive list of examples
           in Section 7 of <xref type="rfc" data="rfc5278"/>.
         </paragraph>
       </additionalinfo>
     </record>
```

4.35. vpim:ldap

```
<record>
  <!-- vpim:ldap -->
  <class>Data Type-Based</class>
  <type>vpim</type>
  <subtype>ldap</subtype>
  <urischeme>ldap</urischeme>
  <functionalspec>
    See <xref type="rfc" data="rfc4238"/>, Section 3.2 - 3.3.
  </functionalspec>
  <security>
    <paragraph>
      Malicious Redirection:
      One of the fundamental dangers related to any
      service such as this is that a malicious entry in a
      resolver's database will cause clients to resolve
      the E.164 into the wrong LDAP URI.  The possible
      intent may be to cause the client to connect to a
      rogue LDAP server and retrieve (or fail to retrieve)
      a resource containing fraudulent or damaging
      information.
    </paragraph>
    <paragraph>
      Denial of Service:
      By removing the URI to which the E.164 maps, a
      malicious intruder may remove the client's ability
      to access the LDAP directory server.
    </paragraph>
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4238"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Greg_Vaudreuil"/>
  </requesters>
</record>
```

4.36. vpim:mailto

```
     <record>
       <!-- vpim:mailto -->
       <class>Data Type-Based</class>
       <type>vpim</type>
       <subtype>mailto</subtype>
       <urischeme>mailto</urischeme>
       <functionalspec>
         See <xref type="rfc" data="rfc4238"/>, Section 4.2 - 4.4.
       </functionalspec>
       <security>
         <paragraph>
           Malicious Redirection:
           One of the fundamental dangers related to any
           service such as this is that a malicious entry in a
           resolver's database will cause clients to resolve
           the E.164 into the wrong email URI.  The possible
           intent may be to cause the client to send the
           information to an incorrect destination.
         </paragraph>
         <paragraph>
           Denial of Service:
           By removing the URI to which the E.164 maps, a
           malicious intruder may remove the client's ability
           to access the resource.
         </paragraph>
         <paragraph>
           Unsolicited Bulk Email:
           The exposure of email addresses through the ENUM
           service provides a bulk mailer access to large
           numbers of email addresses where only the telephone
           number was previously known.
         </paragraph>
       </security>
       <usage>COMMON</usage>
       <registrationdocs>
         <xref type="rfc" data="rfc4238"/> (updated by RFC 6118)
         <xref type="rfc" data="RFC 6118"/>
       </registrationdocs>
       <requesters>
         <xref type="person" data="Greg_Vaudreuil"/>
       </requesters>
       <additionalinfo>
         <paragraph>
           Error Conditions:
         </paragraph>
         <paragraph>
```

```
         E.164 number not in the numbering plan
       </paragraph>
       <paragraph>
         E.164 number in the numbering plan, but no
         URIs exist for that number
       </paragraph>
       <paragraph>
         E2U+vpim:mailto Service unavailable of email
         addresses where only the telephone number was
         previously known.
       </paragraph>
     </additionalinfo>
   </record>
```

4.37. web:http

```
<record>
  <!-- web:http -->
  <class>Application-Based, Common</class>
  <type>web</type>
  <subtype>http</subtype>
  <urischeme>http</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of being a source of information.  It has to be
      noted that the kind of information retrieved can be
      manifold.  Usually, contacting a resource by an
      "http:" URI provides a document.  This document can
      contain references that will trigger download of
      many different kinds of information, like audio or
      video or executable code.  Thus, one cannot be more
      specific about the kind of information that can be
      expected when contacting the resource.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4002"/>, Section 5.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4002"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.38. web:https

```
<record>
  <!-- web:https -->
  <class>Application-Based, Common</class>
  <type>web</type>
  <subtype>https</subtype>
  <urischeme>https</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified by the associated URI is capable
      of being a source of information, which can be
      contacted by using TLS or the Secure Socket Layer
      protocol.  It has to be noted that the kind of
      information retrieved can be manifold.  Usually,
      contacting a resource by an "https:" URI provides a
      document.  This document can contain all different
      kinds of information, like audio or video or
      executable code.  Thus, one cannot be more specific
      what information to expect when contacting the
      resource.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4002"/>, Section 5.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4002"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Rudolf_Brandner"/>
    <xref type="person" data="Lawrence_Conroy"/>
    <xref type="person" data="Richard_Stastny"/>
  </requesters>
</record>
```

4.39. xmpp

```
<record>
  <!-- xmpp -->
  <class>Protocol-Based</class>
  <type>xmpp</type>
  <!-- No subtype -->
  <urischeme>xmpp</urischeme>
  <functionalspec>
    <paragraph>
      This Enumservice indicates that the resource
      identified is an XMPP entity.
    </paragraph>
  </functionalspec>
  <security>
    See <xref type="rfc" data="rfc4979"/>, Section 6.
  </security>
  <usage>COMMON</usage>
  <registrationdocs>
    <xref type="rfc" data="rfc4979"/> (updated by RFC 6118)
    <xref type="rfc" data="RFC 6118"/>
  </registrationdocs>
  <requesters>
    <xref type="person" data="Alexander_Mayrhofer"/>
  </requesters>
</record>
```

5. IANA Considerations

   IANA replaced all legacy Enumservice Registrations as per Section 4.

6. Security Considerations

   Since this document does not introduce any technology or protocol,
   there are no security issues to be considered for this document
   itself.

7. Acknowledgements

   The authors would like to thank the following people who have
   provided feedback or significant contributions to the development of
   this document: Jari Arkko, Scott Bradner, Gonzalo Camarillo, Alfred
   Hoenes, Ari Keranen, and Alexey Melnikov.

8. References

8.1. Normative References

   [RFC2026]   Bradner, S., "The Internet Standards Process -- Revision
               3", BCP 9, RFC 2026, October 1996.

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

   [RFC3761]   Faltstrom, P. and M. Mealling, "The E.164 to Uniform
               Resource Identifiers (URI) Dynamic Delegation Discovery
               System (DDDS) Application (ENUM)", RFC 3761, April 2004.

   [RFC3762]   Levin, O., "Telephone Number Mapping (ENUM) Service
               Registration for H.323", RFC 3762, April 2004.

   [RFC3764]   Peterson, J., "enumservice registration for Session
               Initiation Protocol (SIP) Addresses-of-Record", RFC 3764,
               April 2004.

   [RFC3953]   Peterson, J., "Telephone Number Mapping (ENUM) Service
               Registration for Presence Services", RFC 3953,
               January 2005.

   [RFC4002]   Brandner, R., Conroy, L., and R. Stastny, "IANA
               Registration for Enumservice 'web' and 'ft'", RFC 4002,
               February 2005.

   [RFC4143]   Toyoda, K. and D. Crocker, "Facsimile Using Internet Mail
               (IFAX) Service of ENUM", RFC 4143, November 2005.

   [RFC4238]   Vaudreuil, G., "Voice Message Routing Service", RFC 4238,
               October 2005.

   [RFC4355]   Brandner, R., Conroy, L., and R. Stastny, "IANA
               Registration for Enumservices email, fax, mms, ems, and
               sms", RFC 4355, January 2006.

   [RFC4415]   Brandner, R., Conroy, L., and R. Stastny, "IANA
               Registration for Enumservice Voice", RFC 4415,
               February 2006.

   [RFC4769]   Livingood, J. and R. Shockey, "IANA Registration for an
               Enumservice Containing Public Switched Telephone Network
               (PSTN) Signaling Information", RFC 4769, November 2006.

   [RFC4969] Mayrhofer, A., "IANA Registration for vCard Enumservice",
              RFC 4969, August 2007.

   [RFC4979] Mayrhofer, A., "IANA Registration for Enumservice 'XMPP'",
              RFC 4979, August 2007.

   [RFC5028] Mahy, R., "A Telephone Number Mapping (ENUM) Service
              Registration for Instant Messaging (IM) Services",
              RFC 5028, October 2007.

   [RFC5278] Livingood, J. and D. Troshynski, "IANA Registration of
              Enumservices for Voice and Video Messaging", RFC 5278,
              July 2008.

   [RFC5333] Mahy, R. and B. Hoeneisen, "IANA Registration of
              Enumservices for Internet Calendaring", RFC 5333,
              October 2009.

   [RFC6117] Hoeneisen, B., Mayrhofer, A., and J. Livingood, "IANA
              Registration of Enumservices: Guide, Template, and IANA
              Considerations", RFC 6117, March 2011.

8.2. Informative References

   [RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an
              IANA Considerations Section in RFCs", BCP 26, RFC 5226,
              May 2008.

Appendix A. Former Content of the IANA Repository

  Enumservice Registrations

  (last updated 2009-10-13)

  Registries included below:
  - Enumservice Registrations

  Registry Name: Enumservice Registrations
  Reference: [RFC3761]
  Registration Procedures: Require an RFC approved by the IESG

  Note:
  Enumservice specifications contain the functional specification (i.e.
  what it can be used for), the valid protocols, and the URI schemes
  that may be returned.

  Registry:
  Service Name: "H323"
       URI Scheme(s): "h323:"
       Functional Specification:
          See Section "3. The E2U+H323 ENUM Service" of [RFC3762]
       Security considerations:
          see section "5. Security Considerations" of [RFC3762]
       Intended usage: COMMON
       Author: Orit Levin
       [RFC3762]

  Service Name: "SIP"
       Type(s): "SIP"
       Subtype(s): N/A
       URI Scheme(s): "sip", "sips:"
       Functional Specification: see Section 4 of [RFC3764]
       Security considerations: see Section 6 of [RFC3764]
       Intended usage: COMMON
       Author: Jon Peterson (jon.peterson&neustar.biz)
       Any other information that the author deems interesting:
          see Section 3 of [RFC3764]
       [RFC3764]

   Service Name: "ifax"
        Type: "ifax"
        Subtype: "mailto"
        URI Scheme: "mailto"
           The URI Scheme is "mailto" because facsimile is a profile of
           standard Internet mail and uses standard Internet mail
           addressing.
        Functional Specification: see section 1 of [RFC4143]
        Security Considerations: see section 3 of [RFC4143]
        Intended usage: COMMON
        Author: Kiyoshi Toyoda(toyoda.kiyoshi&jp.panasonic.com)
                Dave Crocker(dcrocker&brandenburg.com)
        [RFC4143]

   Service Name: "pres"
        URI Scheme(s): "pres:"
        Functional Specification: see Section 4 of [RFC3953]
        Security considerations: see Section 6 of [RFC3953]
        Intended usage: COMMON
        Author: Jon Peterson (jon.peterson&neustar.biz)
        Any other information that the author deems interesting:
           See Section 3 of [RFC3953]
        [RFC3953]

   Service Name: "web"
        Type: "web"
        Subtype: "http"
        URI Scheme: 'http:'
        Functional Specification:
           This ENUMservice indicates that the resource identified by the
           associated URI scheme is capable of being a source of
           information. It has to be noted that the kind of information
           retrieved can be manifold. Usually, contacting a resource by an
           'http:' URI provides a document. This document can contain
           references that will trigger download of many different kinds
           of information, like audio or video or executable code. Thus,
           one can not be more specific about the kind of information that
           can be expected when contacting the resource.
        Security Considerations:
           See section 5 of [RFC4002].
        Intended Usage: COMMON
        Authors:
           Rudolf Brandner (rudolf.brandner&siemens.com)
           Lawrence Conroy (lwc&roke.co.uk)
           Richard Stastny (richard.stastny&oefeg.at)
        Any other information the author deems interesting: None
        [RFC4002]

 Service Name: "web"
      Type: "web"
      Subtype: "https"
      URI Scheme: 'https:'
      Functional Specification:
         This ENUMservice indicates that the resource identified by the
         associated URI scheme is capable of being a source of
         information, which can be contacted by using TLS or Secure
         Socket Layer protocol. It has to be noted that the kind of
         information retrieved can be manifold. Usually, contacting a
         resource by an 'https:' URI provides a document. This document
         can contain all different kind of information, like audio or
         video or executable code. Thus, one can not be more specific
         what information to expect when contacting the resource.
      Security Considerations:
         See section 5 of [RFC4002].
      Intended Usage: COMMON
      Authors:
         Rudolf Brandner (rudolf.brandner&siemens.com)
         Lawrence Conroy (lwc&roke.co.uk)
         Richard Stastny (richard.stastny&oefeg.at)
      Any other information the author deems interesting: None
      [RFC4002]

 Service Name: "ft"
      Type: "ft"
      Subtype: "ftp"
      URI Scheme: 'ftp:'
      Functional Specification:
         This ENUMservice indicates that the resource identified by the
         associated URI scheme is a file service from which a file or
         file listing can be retrieved.
      Security Considerations:
         See section 5 of [RFC4002].
      Intended Usage: COMMON
      Authors:
         Rudolf Brandner (rudolf.brandner&siemens.com)
         Lawrence Conroy (lwc&roke.co.uk)
         Richard Stastny (richard.stastny&oefeg.at)
      Any other information the author deems interesting: None
      [RFC4002]

Enumservice Name: "email"
    Enumservice Type: "email"
    Enumservice Subtype: "mailto"
    URI Scheme: 'mailto:'
    Functional Specification:
       This Enumservice indicates that the remote resource can be
       addressed by the associated URI scheme in order to send an
       email.
    Security Considerations:
       See Section 6 of [RFC4355]
    Intended Usage: COMMON
    Authors:
       Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
       contact detail see [RFC4355])
    Any other information the author deems interesting:
       None

Enumservice Name: "fax"
    Enumservice Type: "fax"
    Enumservice Subtype: "tel"
    URI Scheme: 'tel:'
    Functional Specification:
       This Enumservice indicates that the resource identified by the
       associated URI scheme is capable of being contacted to provide
       a communication session during which facsimile documents can be
       sent.
       A client selecting this NAPTR will have support for generating
       and sending facsimile documents to the recipient using the PSTN
       session and transfer protocols specified in [12] and [13] in
       [RFC4355] - in short, they will have a fax
       program with a local or shared PSTN access over which they can
       send faxes.
    Security Considerations:
       See Section 6 of [RFC4355]
    Intended Usage: COMMON
    Authors:
       Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
       contact detail see [RFC4355])
    Any other information the author deems interesting:
       None

Enumservice Name: "sms"
    Enumservice Type: "sms"
    Enumservice Subtypes: "tel"
    URI Scheme: 'tel:'
    Functional Specification:
        This Enumservice indicates that the resource identified by the
        associated URI scheme is capable of receiving a message using
        the Short Message Service (SMS) [14] in [RFC4355].
    Security Considerations:
        There are no specific security issues with this Enumservice.
        However, the general considerations of Section 6 apply.
    Intended Usage: COMMON
    Authors:
        Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
        contact detail see [RFC4355])
    Any other information the author deems interesting:
        None

Enumservice Name: "sms"
    Enumservice Type: "sms"
    Enumservice Subtypes: "mailto"
    URI Scheme: 'mailto:'
    Functional Specification:
        This Enumservice indicates that the resource identified by the
        associated URI scheme is capable of receiving a message using
        an email protocol.
        SMS content is sent over SMTP using the format specified by TS
        23.140 [15] section 8.4.4 and TS 26.140 [16] section 4 (for
        references see [RFC4355]), as an MMS message. Within such a
        message, SMS content is carried as either a text or
        application/octet-stream MIME sub-part (see TS 26.140 [16] ,
        section 4.1)
        For references see [RFC4355].
    Security Considerations:
        There are no specific security issues with this Enumservice.
        However, the general considerations of Section 6 apply, see
        [RFC4355].
    Intended Usage: COMMON
    Authors:
        Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
        contact detail see [RFC4355])
    Any other information the author deems interesting:
        None

Enumservice Name: "ems"
    Enumservice Type: "ems"
    Enumservice Subtype: "tel"
    URI Scheme: 'tel:'
    Functional Specification:
       This Enumservice indicates that the resource identified by the
       associated URI scheme is capable of receiving a message using
       the Enhanced Message Service (EMS) [14] (For reference see
       [RFC4355]).
    Security Considerations:
       There are no specific security issues with this Enumservice.
       However, the general considerations of Section 6 apply.
       See [RFC4355]
    Intended Usage: COMMON
    Authors:
       Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
       contact detail see [RFC4355])
    Any other information the author deems interesting:
       Note that an indication of EMS can be taken as implying that
       the recipient is capable of receiving SMS messages at this
       address as well.

 Enumservice Name: "ems"
    Enumservice Type: "ems"
    Enumservice Subtypes: "mailto"
    URI Scheme: 'mailto:'
    Functional Specification:
       This Enumservice indicates that the resource identified by the
       associated URI scheme is capable of receiving a message using
       an email protocol.
       EMS content is sent over SMTP using the format specified by TS
       23.140 [15] section 8.4.4 and TS 26.140 [16] section 4, as an
       MMS message. Within such a message, EMS content is carried as
       either a text or application/octet-stream MIME sub-part (see
       TS 26.140 [16] , section 4.1).
       For references see [RFC4355]
    Security Considerations:
       There are no specific security issues with this Enumservice.
       However, the general considerations of Section 6 of [RFC4355]
       apply.
    Intended Usage: COMMON
    Authors:
       Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
       contact detail see [RFC4355])
    Any other information the author deems interesting:
       None

 Enumservice Name: "mms"
    Enumservice Type: "mms"
    Enumservice Subtype: "tel"
    URI Scheme: 'tel:'
    Functional Specification:
       This Enumservice indicates that the resource identified by the
       associated URI scheme is capable of receiving a message using
       the Multimedia Messaging Service (MMS) [15].
       For references see [RFC4355]
    Security Considerations:
       There are no specific security issues with this Enumservice.
       However, the general considerations of Section 6 of [RFC4355]
       apply.
    Intended Usage: COMMON
    Authors:
       Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
       contact detail see [RFC4355])
    Any other information the author deems interesting:
       Note that MMS can be used as an alternative to deliver an SMS
       RP-DATA RPDU if, for example, the SMS bearer is not supported.
       If an entry includes this Enumservice, then in effect this can
       be taken as implying that the recipient is capable of receiving
       EMS or SMS messages at this address. Such choices on the end
       system design do have two small caveats; whilst in practice all
       terminals supporting MMS today support SMS as well, it might
       not necessarily be the case in the future, and there may be
       tariff differences in using the MMS rather than using the SMS
       or EMS.

 Enumservice Name: "mms"
    Enumservice Type: "mms"
    Enumservice Subtypes: "mailto"
    URI Scheme: 'mailto:'
    Functional Specification:
       This Enumservice indicates that the resource identified by the
       associated URI scheme is capable of receiving a message using
       an email protocol.
       MMS messages are sent over SMTP using the format specified by
       TS 23.140 [15] section 8.4.4 and TS 26.140 [16] section 4.
       Within and between MMS Environments (MMSE, network
       infrastructures that support the MultiMedia Service), other
       pieces of state data (for example, charging-significant
       information) are exchanged between MMS Relay Servers. Thus,
       although these servers use SMTP as the "bearer" for their
       application exchanges, they map their internal state to
       specialised headers carried in the SMTP message exchanges.
       The headers used in such MMSE are described in detail in [17].
       For references see [RFC4355]

Security Considerations:
    There are no specific security issues with this Enumservice.
    However, the general considerations of Section 6 of [RFC4355]
    apply.
Intended Usage: COMMON
Authors:
    Rudolf Brandner, Lawrence Conroy, Richard Stastny (for author
    contact detail see [RFC4355])
Any other information the author deems interesting:
    The MMS Architecture describes an interface between the MMSE and
    "legacy messaging systems" (labelled as MM3) which accepts
    "standard" SMTP messages. Thus although the MMS Relay Server
    that supports this interface appears as a standard SMTP server
    from the perspective of an Internet-based mail server, it acts
    as a gateway and translator, adding the internal state data that
    is used within and between the MMS Environments. This mechanism
    is described in [17], which also includes references to the
    specifications agreed by those bodies responsible for the design
    of the MMS.

 Service Name: E.164 to VPIM MailTo: URL
    URI Type: "Mailto:"
    Type: VPIM
    Subtype: MAILTO
    Functional Specification: See section 4.2 through 4.4 of [RFC4238]
    Intended Usage: COMMON
    Author: Greg Vaudreuil (gregv&ieee.org)
    Error Conditions:
       o E.164 number not in the numbering plan
       o E.164 number in the numbering plan, but no URLs exist for that
         number
       o E2U+VPIM:Mailto Service unavailable
    Security Considerations:
       o Malicious Redirection
         One of the fundamental dangers related to any service such as
         this is that a malicious entry in a resolver's database will
         cause clients to resolve the E.164 into the wrong email URL.
         The possible intent may be to cause the client to send the
         information to an incorrect destination.
       o Denial of Service
         By removing the URL to which the E.164 maps, a malicious
         intruder may remove the client's ability to access the
         resource.
       o Unsolicited Bulk Email
         The exposure of email addresses through the ENUM
         service provides a bulk mailer access to large numbers
         of email addresses where only the telephone number was
         previously known.

  Service Name: E.164 to VPIM LDAP URL
     URI Type: "LDAP:"
     Type: VPIM
     Subtype: LDAP
     Functional Specification: See section 3.2 through 3.3 of [RFC4238]
     Intended Usage: COMMON
     Author: Greg Vaudreuil (gregv&ieee.org)
     Security Considerations:
        o Malicious Redirection
          One of the fundamental dangers related to any service
          such as this is that a malicious entry in a resolver's
          database will cause clients to resolve the E.164 into
          the wrong LDAP URL. The possible intent may be to cause
          the client to connect to a rogue LDAP server and
          retrieve (or fail to retrieve) a resource containing
          fraudulent or damaging information.
        o Denial of Service
          By removing the URL to which the E.164 maps, a
          malicious intruder may remove the client's ability to
          access the LDAP directory server.

  Enumservice Name: "voice"
     Enumservice Type: "voice"
     Enumservice Subtype: "tel"
     URI Scheme: 'tel:'
     Functional Specification:
        The kind of communication indicated by this Enumservice is
        "Interactive Voice". From a protocol perspective, this
        communication is expected to involve bidirectional media streams
        carrying audio data.
        A client may imply that the person controlling population of a
        NAPTR holding this Enumservice indicates their capability to
        engage in an interactive voice session when contacted using the
        URI generated by this NAPTR.
     Security Considerations:
        See Section 5 of [RFC4415]
     Intended Usage: COMMON
     Authors: Rudolf Brandner, Lawrence Conroy, Richard Stastny (for
               author contact detail see Authors' Addresses section)
     Any other information the author deems interesting:
      o This Enumservice indicates that the person responsible for the
        NAPTR is accessible via the PSTN (Public Switched Telephone
        Network) or PLMN (Public Land Mobile Network) using the value of
        the generated URI.
      o The kind of subsystem required to initiate a Voice Enumservice
        with this sub-type is a "Dialler". This is a subsystem that
        either provides a local connection to the PSTN or PLMN, or that
        provides an indirect connection to those networks. The

       subsystem will use the telephone number held in the generated
       URI to place a voice call. The voice call is placed to a
       network that uses E.164 numbers to route calls to an appropriate
       destination.
    o Note that the PSTN/PLMN connection may be indirect. The end
       user receiving this NAPTR may have a relationship with a
       Communications Service Provider that accepts call initiation
       requests from that subsystem using an IP-based protocol such as
       SIP or H.323, and places the call to the PSTN using a remote
       gateway service. In this case the Provider may either accept
       requests using "tel:" URIs or has a defined mechanism to convert
       "tel:" URI values into a "protocol-native" form.
    o The "tel:" URI value SHOULD be fully qualified (using the
       "global phone number" form of RFC3966 [10]). A "local phone
       number" as defined in that document SHOULD NOT be used unless
       the controller of the zone in which the NAPTR appears is sure
       that it can be distinguished unambiguously by all clients that
       can access the resource record and that a call from their
       network access points can be routed to that destination.

  Enumservice Name: "pstn"
     Enumservice Type: "pstn"
     Enumservice Subtype: "tel"
     URI Scheme: 'tel:'
     Functional Specification:
        These Enumservices indicate that the remote resource identified
        can be addressed by the associated URI scheme in order to
        initiate a telecommunication session, which may include two-way
        voice or other communications, to the PSTN. These URIs may
        contain number portability data as specified in RFC 4694 [10].
     Security Considerations: See Section 7 of [RFC4769].
     Intended Usage: COMMON
     Authors:
        Jason Livingood (jason_livingood&cable.comcast.com)
        Richard Shockey (richard.shockey&neustar.biz)
     Any other information the author deems interesting:
        A Number Portability Dip Indicator (npdi) should be used in
        practice (see examples below in Section 4 of [RFC4769]).

   Enumservice Name: "pstn"
      Enumservice Type: "pstn"
      Enumservice Subtype: "sip"
      URI Scheme: 'sip:'
      Functional Specification:
         These Enumservices indicate that the remote resource identified
         can be addressed by the associated URI scheme in order to
         initiate a telecommunication session, which may include two-way
         voice or other communications, to the PSTN.
      Security Considerations: See Section 7 of [RFC4769].
      Intended Usage: COMMON
      Authors:
         Jason Livingood (jason_livingood&cable.comcast.com)
         Richard Shockey (richard.shockey&neustar.biz)
      Any other information the author deems interesting:
         A Number Portability Dip Indicator (npdi) should be used in
         practice (see examples below in Section 4 of [RFC4769]).

   Enumservice Name: "vCard"
      Enumservice Name: "vCard"
      Enumservice Type: "vcard"
      Enumservice Subtype: n/a
      URI Schemes: "http", "https"
      Functional Specification:
         This Enumservice indicates that the resource identified is a
         plain vCard, according to RFC 2426, which may be accessed using
         HTTP/ HTTPS [7].
         Clients fetching the vCard from the resource indicated should
         expect access to be restricted. Additionally, the comprehension
         of the data provided may vary depending on the client's
         identity.
      Security Considerations: see Section 5 [RFC4969]
      Intended Usage: COMMON
      Author: Alexander Mayrhofer <alexander.mayrhofer&enum.at>

   Enumservice Name: "XMPP"
      Enumservice Type: "xmpp"
      Enumservice Subtype: n/a
      URI Schemes: "xmpp"
      Functional Specification:
         This Enumservice indicates that the resource identified is an
         XMPP entity.
      Security Considerations: see Section 6 of [RFC4979]
      Intended Usage: COMMON
      Author: Alexander Mayrhofer <alexander.mayrhofer&enum.at>

Enumservice Name: "im"
   Enumservice Type: "im"
   Enumservice Subtypes: N/A
   URI scheme(s): "im:"
   Functional Specification:
      This Enumservice indicates that the resource identified
      is an 'im:' URI. The 'im:' URI scheme does not identify
      any particular protocol that will be used to handle
      instant messaging receipt or delivery, rather the mechanism
      in RFC 3861 [4] is used to discover whether an IM protocol
      supported by the party querying ENUM is also supported by
      the target resource.
   Security considerations: See section 3 of [RFC5028]
   Intended usage: COMMON
   Author: Rohan Mahy (rohan&ekabal.com)

Enumservice Name: "voicemsg"
   Enumservice Type: "voicemsg"
   Enumservice Subtypes: "sip"
   URI Schemes: 'sip:'
   Functional Specification:
      This Enumservice indicates that the remote resource identified
      can be addressed by the associated URI scheme in order to
      initiate a voice communication session to a voice messaging
      system.
   Security Considerations: See Section 3 of [RFC5278]
   Intended Usage: COMMON
   Authors:
      Jason Livingood (jason_livingood&cable.comcast.com)
      Don Troshynski (dtroshynski&acmepacket.com)
   Any other information the author deems interesting:
      Implementers should review a non-exclusive list of examples
      below in Section 7 of [RFC5278]

Enumservice Name: "voicemsg"
   Enumservice Type: "voicemsg"
   Enumservice Subtypes: "sips"
   URI Schemes: 'sips:'
   Functional Specification:
      This Enumservice indicates that the remote resource identified
      can be addressed by the associated URI scheme in order to
      initiate a voice communication session to a voice messaging
      system.
   Security Considerations: See Section 3 of [RFC5278]
   Intended Usage: COMMON
   Authors:
      Jason Livingood (jason_livingood&cable.comcast.com)
      Don Troshynski (dtroshynski&acmepacket.com)

      Any other information the author deems interesting:
         Implementers should review a non-exclusive list of examples
         below in Section 7 of [RFC5278]

    Enumservice Name: "voicemsg"
       Enumservice Type: "voicemsg"
       Enumservice Subtype: "tel"
       URI Schemes: 'tel:'
       Functional Specification:
          This Enumservice indicates that the remote resource identified
          can be addressed by the associated URI scheme in order to
          initiate a voice communication session to a voice messaging
          system.
       Security Considerations: See Section 3 of [RFC5278]
       Intended Usage: COMMON
       Authors:
          Jason Livingood (jason_livingood&cable.comcast.com)
          Don Troshynski (dtroshynski&acmepacket.com)
       Any other information the author deems interesting:
          Implementers should review a non-exclusive list of examples
          below in Section 7 of [RFC5278]

    Enumservice Name: "voicemsg"
       Enumservice Type: "voicemsg"
       Enumservice Subtype: "http"
       URI Schemes: 'http:'
       Functional Specification:
          This Enumservice indicates that the remote resource identified
          by the associated URI scheme is capable of being a source of
          information.
          Note that the kind of information retrieved can be manifold.
          Usually, contacting a resource by an 'http:' [11] URI provides a
          document. This document can contain references that will trigger
          the download of many different kinds of information, such as
          text, audio, video, executable code, or even voice message
          files. Thus, one cannot be more specific about the kind of
          information expected when contacting the resource.
       Security Considerations: See Section 3 of [RFC5278]
       Intended Usage: COMMON
       Authors:
          Jason Livingood (jason_livingood&cable.comcast.com)
          Don Troshynski (dtroshynski&acmepacket.com)
       Any other information the author deems interesting:
          Implementers should review a non-exclusive list of examples
          below in Section 7 of [RFC5278]

Enumservice Name: "voicemsg"
    Enumservice Type: "voicemsg"
    Enumservice Subtype: "https"
    URI Schemes: 'https:'
    Functional Specification:
        This Enumservice indicates that the remote resource identified
        by the associated URI scheme is capable of being a source of
        information, which can be contacted using TLS or the Secure
        Socket Layer protocol.
        Note that the kind of information retrieved can be manifold.
        Usually, contacting a resource by an 'https:' [12] URI provides
        a document. This document can contain references that will
        trigger the download of many different kinds of information,
        such as text, audio, video, executable code, or even voice
        message files. Thus, one cannot be more specific about the kind
        of information expected when contacting the resource.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
        Jason Livingood (jason_livingood&cable.comcast.com)
        Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
        Implementers should review a non-exclusive list of examples
        below in Section 7 of [RFC5278]

Enumservice Name: "videomsg"
    Enumservice Type: "videomsg"
    Enumservice Subtypes: "sip"
    URI Schemes: 'sip:'
    Functional Specification:
        This Enumservice indicates that the remote resource identified
        can be addressed by the associated URI scheme in order to
        initiate a video communication session to a video messaging
        system.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
        Jason Livingood (jason_livingood&cable.comcast.com)
        Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
        Implementers should review a non-exclusive list of examples
        below in Section 7 of [RFC5278]

Enumservice Name: "videomsg"
    Enumservice Type: "videomsg"
    Enumservice Subtypes: "sips"
    URI Schemes: 'sips:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       can be addressed by the associated URI scheme in order to
       initiate a video communication session to a video messaging
       system.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "videomsg"
    Enumservice Type: "videomsg"
    Enumservice Subtype: "http"
    URI Schemes: 'http:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       by the associated URI scheme is capable of being a source of
       information.
       Note that the kind of information retrieved can be manifold.
       Usually, contacting a resource by an 'http:' [11] URI provides a
       document. This document can contain references that will trigger
       the download of many different kinds of information, such as
       text, audio, video, executable code, or even video message
       files. Thus, one cannot be more specific about the kind of
       information expected when contacting the resource.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "videomsg"
    Enumservice Type: "videomsg"
    Enumservice Subtype: "https"
    URI Schemes: 'https:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       by the associated URI scheme is capable of being a source of
       information, which can be contacted using TLS or the Secure
       Socket Layer protocol.
       Note that the kind of information retrieved can be manifold.
       Usually, contacting a resource by an 'https:' [12] URI provides
       a document. This document can contain references that will
       trigger the download of many different kinds of information,
       such as text, audio, video, executable code, or even video
       message files. Thus, one cannot be more specific about the kind
       of information expected when contacting the resource.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "unifmsg"
    Enumservice Type: "unifmsg"
    Enumservice Subtypes: "sip"
    URI Schemes: 'sip:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       can be addressed by the associated URI scheme in order to
       initiate a unified communication session to a unified messaging
       system.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "unifmsg"
    Enumservice Type: "unifmsg"
    Enumservice Subtypes: "sips"
    URI Schemes: 'sips:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       can be addressed by the associated URI scheme in order to
       initiate a unified communication session to a unified messaging
       system.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "unifmsg"
    Enumservice Type: "unifmsg"
    Enumservice Subtype: "http"
    URI Schemes: 'http:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       by the associated URI scheme is capable of being a source of
       information.
       Note that the kind of information retrieved can be manifold.
       Usually, contacting a resource by an 'http:' [11] URI provides a
       document. This document can contain references that will trigger
       the download of many different kinds of information, such as
       text, audio, video, executable code, or even video message
       files. Thus, one cannot be more specific about the kind of
       information expected when contacting the resource.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "unifmsg"
    Enumservice Type: "unifmsg"
    Enumservice Subtype: "https"
    URI Schemes: 'https:'
    Functional Specification:
       This Enumservice indicates that the remote resource identified
       by the associated URI scheme is capable of being a source of
       information, which can be contacted using TLS or the Secure
       Socket Layer protocol.
       Note that the kind of information retrieved can be manifold.
       Usually, contacting a resource by an 'https:' [12] URI provides
       a document. This document can contain references that will
       trigger the download of many different kinds of information,
       such as text, audio, video, executable code, or even video
       message files. Thus, one cannot be more specific about the kind
       of information expected when contacting the resource.
    Security Considerations: See Section 3 of [RFC5278]
    Intended Usage: COMMON
    Authors:
       Jason Livingood (jason_livingood&cable.comcast.com)
       Don Troshynski (dtroshynski&acmepacket.com)
    Any other information the author deems interesting:
       Implementers should review a non-exclusive list of examples
       below in Section 7 of [RFC5278]

Enumservice Name: "ical-sched"
    Enumservice Type: "ical-sched"
    Enumservice Subtypes: "mailto"
    URI scheme(s): 'mailto:'
    Functional Specification:
       This Enumservice indicates that the resource identified can be
       addressed by the associated URI used for scheduling using
       Internet calendaring via Internet mail with the iMIP [6]
       protocol.
    Security considerations: See Section 4 of [RFC5333].
    Intended usage: COMMON
    Author:
       Rohan Mahy (rohan&ekabal.com)

   Enumservice Name: "ical-access"
      Enumservice Type: "ical-access"
      Enumservice Subtypes: "http"
      URI scheme(s): 'http:'
      Functional Specification:
         This Enumservice indicates that the resource identified can be
         addressed by the associated URI in order to access a user's
         calendar (for example free/busy status) using the CalDAV [7]
         protocol for Internet calendaring.
      Security considerations: See Section 4 of [RFC5333].
      Intended usage: COMMON
      Author:
         Rohan Mahy (rohan&ekabal.com)

   Enumservice Name: "ical-access"
      Enumservice Type: "ical-access"
      Enumservice Subtypes: "https"
      URI scheme(s): 'https:'
      Functional Specification:
         This Enumservice indicates that the resource identified can be
         addressed by the associated URI in order to access a user's
         calendar (for example free/busy status) using the CalDAV [7]
         protocol for Internet calendaring.
      Security considerations: See Section 4 of [RFC5333].
      Intended usage: COMMON
      Author:
         Rohan Mahy (rohan&ekabal.com)

Authors' Addresses

   Bernie Hoeneisen
   Ucom Standards Track Solutions GmbH
   CH-8000 Zuerich
   Switzerland

   Phone: +41 44 500 52 44
   EMail: bernie@ietf.hoeneisen.ch (bernhard.hoeneisen AT ucom.ch)
   URI: http://www.ucom.ch/

   Alexander Mayrhofer
   enum.at GmbH
   Karlsplatz 1/9
   Wien A-1010
   Austria

   Phone: +43 1 5056416 34
   EMail: alexander.mayrhofer@enum.at
   URI: http://www.enum.at/