



XMPP

XEP-0054: vcard-temp

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This specification provides canonical documentation of the vCard-XML format currently in use within the Jabber community.

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1 Introduction

This specification documents the vCard-XML format currently in use within the Jabber community. A future specification will recommend a standards-track protocol to supersede this informational document.

The basic functionality is for a user to store and retrieve an XML representation of his or her vCard using the data storage capabilities native to all existing Jabber server implementations. This is done by sending an <iq/> of type "set" (storage) or "get" (retrieval) to one's Jabber server containing a <vCard/> child scoped by the 'vcard-temp' namespace, with the <vCard/> element containing the actual vCard-XML elements as defined by the vCard-XML DTD. Other users may then view one's vCard information.

2 History

vCards are an existing and widely-used standard for personal user information storage, somewhat like an electronic business card. The vCard format is defined in [RFC 2426](#)¹.

In 1998 and 1999, Frank Dawson submitted four revisions of an Internet-Draft proposing to represent the standard vCard format in XML. When the jabberd open-source project was originally looking for a method to store personal user information, the most recent revision consulted by the jabberd developers was draft-dawson-vcard-xml-dtd-01². He also submitted a -02 revision on November 15, 1998³ and a -03 revision on June 22, 1999⁴.

Unfortunately, Dawson's proposal did not move forward within the IETF's standards process. For reasons now lost in the mists of time, the Jabber project continued to use the DTD from draft-dawson-vcard-xml-dtd-01, making two small modifications to adapt it for use within the Jabber community (adding the JABBERID and DESC elements) but also specifying element names in all caps rather than lowercase as defined in draft-dawson-vcard-xml-dtd-01. In addition, the Jabber community followed the usage (but not DTD) in that draft regarding version information, including it as an attribute of the vCard element rather than as a child element. This format was implemented within the Jabber community under the 'vcard-temp' namespace.

¹RFC 2426: vCard MIME Directory Profile <<http://tools.ietf.org/html/rfc2426>>.

²This document is archived at <<http://www.watersprings.org/pub/id/draft-dawson-vcard-xml-dtd-01.txt>>.

³This document is archived at <<http://www.watersprings.org/pub/id/draft-dawson-vcard-xml-dtd-02.txt>>.

⁴This document is archived at <<http://www.watersprings.org/pub/id/draft-dawson-vcard-xml-dtd-03.txt>>.

3 Use Cases

3.1 Retrieving One's vCard

A user retrieves his or her own vCard by sending an IQ-get with no 'to' address and containing a <vCard/> child element qualified by the 'vcard-temp' namespace.

Listing 1: vCard Retrieval Request

```
<iq from='stpeter@jabber.org/roundabout'
  id='v1'
  type='get'>
  <vCard xmlns='vcard-temp' />
</iq>
```

If a vCard exists for the user, the server MUST return in an IQ-result:

Listing 2: Server Returns vCard

```
<iq id='v1'
  to='stpeter@jabber.org/roundabout'
  type='result'>
  <vCard xmlns='vcard-temp'>
  <FN>Peter Saint-Andre</FN>
  <N>
  <FAMILY>Saint-Andre</FAMILY>
  <GIVEN>Peter</GIVEN>
  <MIDDLE />
  </N>
  <NICKNAME>stpeter</NICKNAME>
  <URL>http://www.xmpp.org/xsf/people/stpeter.shtml</URL>
  <BDAY>1966-08-06</BDAY>
  <ORG>
  <ORGNAME>XMPP Standards Foundation</ORGNAME>
  <ORGUNIT />
  </ORG>
  <TITLE>Executive Director</TITLE>
  <ROLE>Patron Saint</ROLE>
  <TEL><WORK /><VOICE /><NUMBER>303-308-3282</NUMBER></TEL>
  <TEL><WORK /><FAX /><NUMBER /></TEL>
  <TEL><WORK /><MSG /><NUMBER /></TEL>
  <ADR>
  <WORK />
  <EXTADD>Suite 600</EXTADD>
  <STREET>1899 Wynkoop Street</STREET>
  <LOCALITY>Denver</LOCALITY>
  <REGION>CO</REGION>
  <PCODE>80202</PCODE>
  <CTRY>USA</CTRY>
```

```

</ADR>
<TEL><HOME /><VOICE /><NUMBER>303-555-1212</NUMBER></TEL>
<TEL><HOME /><FAX /><NUMBER /></TEL>
<TEL><HOME /><MSG /><NUMBER /></TEL>
<ADR>
  <HOME />
  <EXTADD />
  <STREET />
  <LOCALITY>Denver</LOCALITY>
  <REGION>CO</REGION>
  <PCODE>80209</PCODE>
  <CTRY>USA</CTRY>
</ADR>
<EMAIL><INTERNET /><PREF /><USERID>stpeter@jabber.org</USERID></
  EMAIL>
<JABBERID>stpeter@jabber.org</JABBERID>
<DESC>
  More information about me is located on my
  personal website: http://www.saint-andre.com/
</DESC>
</vCard>
</iq>

```

If no vCard exists, the server MUST return a stanza error (which SHOULD be <item-not-found/>) or an IQ-result containing an empty <vCard/> element.

Listing 3: No vCard (item-not-found)

```

<iq id='v1'
  to='stpeter@jabber.org/roundabout'
  type='error'>
  <vCard xmlns='vcard-temp' />
  <error type='cancel'>
    <item-not-found xmlns='urn:ietf:params:xml:ns:xmpp-stanzas' />
  </error>
</iq>

```

Listing 4: No vCard (empty element)

```

<iq id='v1'
  to='stpeter@jabber.org/roundabout'
  type='result'>
  <vCard xmlns='vcard-temp' />
</iq>

```

3.2 Updating One's vCard

A user may publish or update his or her vCard by sending an IQ of type "set" with no 'to' address, following the format in the previous use case.

Listing 5: vCard Update Request

```

<iq id='v2' type='set'>
  <vCard xmlns='vcard-temp'>
    <FN>Peter Saint-Andre</FN>
    <N>
      <FAMILY>Saint-Andre</FAMILY>
      <GIVEN>Peter</GIVEN>
      <MIDDLE/>
    </N>
    <NICKNAME>stpeter</NICKNAME>
    <URL>http://www.xmpp.org/xsf/people/stpeter.shtml</URL>
    <BDAY>1966-08-06</BDAY>
    <ORG>
      <ORGNAME>XMPP Standards Foundation</ORGNAME>
      <ORGUNIT/>
    </ORG>
    <TITLE>Executive Director</TITLE>
    <ROLE>Patron Saint</ROLE>
    <TEL><WORK/><VOICE/><NUMBER>303-308-3282</NUMBER></TEL>
    <TEL><WORK/><FAX/><NUMBER/></TEL>
    <TEL><WORK/><MSG/><NUMBER/></TEL>
    <ADR>
      <WORK/>
      <EXTADD>Suite 600</EXTADD>
      <STREET>1899 Wynkoop Street</STREET>
      <LOCALITY>Denver</LOCALITY>
      <REGION>CO</REGION>
      <PCODE>80202</PCODE>
      <CTRY>USA</CTRY>
    </ADR>
    <TEL><HOME/><VOICE/><NUMBER>303-555-1212</NUMBER></TEL>
    <TEL><HOME/><FAX/><NUMBER/></TEL>
    <TEL><HOME/><MSG/><NUMBER/></TEL>
    <ADR>
      <HOME/>
      <EXTADD/>
      <STREET/>
      <LOCALITY>Denver</LOCALITY>
      <REGION>CO</REGION>
      <PCODE>80209</PCODE>
      <CTRY>USA</CTRY>
    </ADR>
    <EMAIL><INTERNET/><PREF/><USERID>stpeter@jabber.org</USERID></
      EMAIL>
    <JABBERID>stpeter@jabber.org</JABBERID>
    <DESC>
      Check out my blog at https://stpeter.im/
  </vCard>
</iq>

```

```

    </DESC>
  </vCard>
</iq>

```

The server then returns an IQ-result (or an IQ-error).

Listing 6: Server Returns Success

```

<iq id='v2'
  to='stpeter@jabber.org/roundabout'
  type='result' />

```

Notice that the previous IQ-set included only one changed element (the <DESC/> element). Currently there is no method for partial updates of a vCard, and the entire vCard must be sent to the server in order to update any part of the vCard.

If a user attempts to perform an IQ set on another user's vCard (i.e., by setting a 'to' address to a JID other than the sending user's bare JID), the server MUST return a stanza error, which SHOULD be <forbidden/> or <not-allowed/>.

Listing 7: Entity Attempts to Modify Another Entity's vCard

```

<iq id='v2'
  to='stpeter@jabber.org/roundabout'
  type='error'>
  <error type='auth'>
    <forbidden xmlns='urn:ietf:params:xml:ns:xmpp-stanzas' />
  </error>
</iq>

```

3.3 Viewing Another User's vCard

A user may view another user's vCard by sending an IQ of type "get" to the other user's bare JID.

Listing 8: Requesting Another User's vCard

```

<iq from='stpeter@jabber.org/roundabout'
  id='v3'
  to='jer@jabber.org'
  type='get'>
  <vCard xmlns='vcard-temp' />
</iq>

```

In accordance with [XMPP Core](http://tools.ietf.org/html/rfc6120)⁵, a compliant server MUST respond on behalf of the requestor and not forward the IQ to the requestee's connected resource.

⁵RFC 6120: Extensible Messaging and Presence Protocol (XMPP): Core <<http://tools.ietf.org/html/rfc6120>>.

Listing 9: Receiving Another User's vCard

```

<iq from='jer@jabber.org'
  to='stpeter@jabber.org/roundabout'
  type='result'
  id='v3'>
  <vCard xmlns='vcard-temp'>
    <FN>JeremieMiller</FN>
    <N>
      <GIVEN>Jeremie</GIVEN>
      <FAMILY>Miller</FAMILY>
      <MIDDLE />
    </N>
    <NICKNAME>jer</NICKNAME>
    <EMAIL><INTERNET /><PREF /><USERID>jeremie@jabber.org</USERID></
      EMAIL>
    <JABBERID>jer@jabber.org</JABBERID>
  </vCard>
</iq>

```

If no vCard exists or the user does not exist, the server MUST return a stanza error. The server MUST return the same error condition in both cases to help prevent directory harvesting attacks. XMPP IM⁶ dictates that <service-unavailable/> MUST be used when the user account identified by the 'to' attribute of an IQ stanza does not exist. Hence, <service-unavailable/> MUST be used in both cases.

Note: versions prior to 1.3 of this specification defined that either <service-unavailable/> or <item-not-found/> SHOULD be used in these cases. For backwards-compatibility, applications SHOULD appropriately handle both errors.

Listing 10: No vCard

```

<iq id='v3'
  to='stpeter@jabber.org/roundabout'
  type='error'>
  <vCard xmlns='vcard-temp' />
  <error type='cancel'>
    <service-unavailable xmlns='urn:ietf:params:xml:ns:xmpp-stanzas' />
  </error>
</iq>

```

Note: The use of vCards is not limited to accounts associated with human users. For example, an XMPP server could itself have a vCard that defines the server's hosting organization, physical location, and relevant contact addresses.

⁶RFC 6121: Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence <<http://tools.ietf.org/html/rfc6121>>.

4 Determining Support

If an entity supports the vcard-temp protocol, it MUST report that by including a service discovery feature of "vcard-temp" (see Protocol Namespaces regarding issuance of one or more permanent namespaces) in response to a [Service Discovery \(XEP-0030\)](#)⁷ information request:

Listing 11: Service Discovery Information Request

```
<iq type='get'
  from='juliet@capulet.lit/balcony'
  to='capulet.lit'
  id='disco1'>
  <query xmlns='http://jabber.org/protocol/disco#info' />
</iq>
```

Listing 12: Service Discovery Information Response

```
<iq type='result'
  from='capulet.lit'
  to='juliet@capulet.lit/balcony'
  id='disco1'>
  <query xmlns='http://jabber.org/protocol/disco#info'>
    ...
    <feature var='vcard-temp' />
    ...
  </query>
</iq>
```

This information can also be encapsulated via [Entity Capabilities \(XEP-0115\)](#)⁸ for entities who share presence.

5 Security Considerations

The vCard information published to one's Jabber server is world-readable; therefore, users should exercise due caution when determining what information to include (e.g., street addresses, personal telephone numbers, or email addresses).

⁷XEP-0030: Service Discovery <<https://xmpp.org/extensions/xep-0030.html>>.

⁸XEP-0115: Entity Capabilities <<https://xmpp.org/extensions/xep-0115.html>>.

6 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](http://www.iana.org/)⁹.

7 XMPP Registrar Considerations

7.1 Protocol Namespaces

The [XMPP Registrar](https://xmpp.org/registrars/)¹⁰ includes the 'vcard-temp' namespace in its registry of official namespaces (see <https://xmpp.org/registrars/namespaces.html>).

7.2 URI Query Types

As authorized by [XMPP URI Query Components \(XEP-0147\)](https://xmpp.org/extensions/xep-0147.html)¹¹, the XMPP Registrar maintains a registry of queries and key-value pairs for use in XMPP URIs (see <https://xmpp.org/registrars/querytypes.html>).

The "vcard" querytype is registered as a vCard-related action.

Listing 13: vCard Action: IRI/URI

```
xmpp:romeo@montague.net?vcard
```

Listing 14: vCard Action: Resulting Stanza

```
<iq to='romeo@montague.net' type='get'>
  <vCard xmlns='vcard-temp' />
</iq>
```

The following submission registers the "vcard" querytype.

```
<querytype>
  <name>vcard</name>
  <proto>vcard-temp</proto>
  <desc>enables retrieval of an entity 's_vCard_data</desc>
</doc>XEP-0054</doc>
</querytype>
```

⁹The Internet Assigned Numbers Authority (IANA) is the central coordinator for the assignment of unique parameter values for Internet protocols, such as port numbers and URI schemes. For further information, see <http://www.iana.org/>.

¹⁰The XMPP Registrar maintains a list of reserved protocol namespaces as well as registries of parameters used in the context of XMPP extension protocols approved by the XMPP Standards Foundation. For further information, see <https://xmpp.org/registrars/>.

¹¹XEP-0147: XMPP URI Query Components <https://xmpp.org/extensions/xep-0147.html>.

8 Implementation Notes

Note the following:

- The correct capitalization of the wrapper element is <vCard/> (and XML element names are case-sensitive).
- All elements within the <vCard/> element MUST be in ALL CAPS (even though this is at odds with draft-dawson-vcard-xml-dtd-01).
- The country abbreviation is contained in a <CTRY/> element, *not* a <COUNTRY/> element (even though this is at odds with draft-dawson-vcard-xml-dtd-01).
- Phone numbers MUST be contained in a <NUMBER> element, not included as CDATA within the <TEL/> element.
- If no telephone number is included in a <TEL/> element, an empty <NUMBER/> child MUST be included.
- Email addresses MUST be contained in a <USERID> element, not included as CDATA within the <EMAIL/> element.
- Some Jabber implementations add a 'version' attribute to the <vCard/> element, with the value set at "2.0" or "3.0". The DTD is incorrect, and the examples in draft-dawson-vcard-xml-dtd-01 clearly show that version information is to be included by means of a 'version' attribute, not the <VERSION/> element as defined in the DTD. However, to conform to draft-dawson-vcard-xml-dtd-01, the value should be "3.0", not "2.0".

9 DTD

The following DTD is a slightly modified version of that contained in draft-dawson-vcard-xml-dtd-01. The only modifications were to add the JABBERID and DESC elements.

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

<!--
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-->

<!--==== -->

<!-- NOTE: the following root element is not used in the modified vcard-temp DTD published by the Jabber project (now XMPP Standards Foundation) and is included here only for historical purposes; implementations that comply with vcard-temp must specify the root element as vCard, not xCard. -->

<!-- Root element and container for one or more vCard objects -->

<!ELEMENT xCard (vCard)+>

<!-- Individual vCard container -->

<!ELEMENT vCard (
 (VERSION, FN, N),
 (NICKNAME?,
 PHOTO?,
 BDAY?,
 ADR?,
 LABEL?,
 TEL?,
 EMAIL?,
 JABBERID?,
 MAILER?,
 TZ?,
 GEO?,
 TITLE?,

```

ROLE?,
LOGO?,
AGENT?,
ORG?,
CATEGORIES?,
NOTE?,
PROID?,
REV?,
SORT-STRING?,
SOUND?,
UID?,
URL?,
CLASS?,
KEY?,
DESC?
)*)>

<!-- vCard specification version property.
  This MUST be 2.0, if the document conforms to RFC 2426. -->
<!ELEMENT VERSION (#PCDATA)>

<!-- Formatted or display name property. -->
<!ELEMENT FN (#PCDATA)>

<!-- Structured name property. Name components with multiple
  values must be specified as a comma separated
  list of values. -->
<!ELEMENT N ( FAMILY?, GIVEN?, MIDDLE?, PREFIX?, SUFFIX?)>

  <!ELEMENT FAMILY (#PCDATA)>
  <!ELEMENT GIVEN (#PCDATA)>
  <!ELEMENT MIDDLE (#PCDATA)>
  <!ELEMENT PREFIX (#PCDATA)>
  <!ELEMENT SUFFIX (#PCDATA)>

<!-- Nickname property. Multiple nicknames must be
  specified as a comma separated list value. -->
<!ELEMENT NICKNAME (#PCDATA)>

<!-- Photograph property. Value is either a BASE64 encoded
  binary value or a URI to the external content. -->
<!ELEMENT PHOTO ((TYPE, BINVAL) | EXTVAL)>

<!-- Birthday property. Value must be an ISO 8601 formatted
  date or date/time value. -->
<!ELEMENT BDAY (#PCDATA)>

<!-- Structured address property. Address components with
  multiple values must be specified as a comma separated list

```

```
of values. -->
<!ELEMENT ADR (
  HOME?,
  WORK?,
  POSTAL?,
  PARCEL?,
  (DOM | INTL)?,
  PREF?,
  POBOX?,
  EXTADD?,
  STREET?,
  LOCALITY?,
  REGION?,
  PCODE?,
  CTRY?
)>

  <!ELEMENT POBOX (#PCDATA)>
  <!ELEMENT EXTADD (#PCDATA)>
  <!ELEMENT STREET (#PCDATA)>
  <!ELEMENT LOCALITY (#PCDATA)>
  <!ELEMENT REGION (#PCDATA)>
  <!ELEMENT PCODE (#PCDATA)>
  <!ELEMENT CTRY (#PCDATA)>

<!-- Address label property. -->
<!ELEMENT LABEL (
  HOME?,
  WORK?,
  POSTAL?,
  PARCEL?,
  (DOM | INTL)?,
  PREF?,
  LINE+
)>

  <!-- Individual label lines. -->
  <!ELEMENT LINE (#PCDATA)>

<!-- Telephone number property. -->
<!ELEMENT TEL (
  HOME?,
  WORK?,
  VOICE?,
  FAX?,
  PAGER?,
  MSG?,
  CELL?,
  VIDEO?,
```

```
BBS?,
MODEM?,
ISDN?,
PCS?,
PREF?,
NUMBER
)>

<!-- Phone number value. -->
<!ELEMENT NUMBER (#PCDATA)>

<!-- Email address property. Default type is INTERNET. -->
<!ELEMENT EMAIL (
  HOME?,
  WORK?,
  INTERNET?,
  PREF?,
  X400?,
  USERID
)>

<!ELEMENT USERID (#PCDATA)>

<!-- NOTE: the following element was added by the Jabber
project (now XMPP Standards Foundation) to
handle Jabber IDs; the value must be in the
form of user@host -->

<!ELEMENT JABBERID (#PCDATA)>

<!-- Mailer (e.g., Mail User Agent Type) property. -->
<!ELEMENT MAILER (#PCDATA)>

<!-- Time zone's Standard Time UTC offset. Value must be an
ISO_8601_formatted_UTC_offset.-->
<!ELEMENT TZ (#PCDATA)>

<!-- Geographical position. Values are the decimal degrees of
LATitude and LONGitude. The value should be specified to
six decimal places.-->
<!ELEMENT GEO (LAT, LON)>

<!-- Latitude value.-->
<!ELEMENT LAT (#PCDATA)>

<!-- Longitude value.-->
<!ELEMENT LON (#PCDATA)>

<!-- Title property.-->
```



```

<<<!ELEMENT TITLE_ (#PCDATA)>

<<<!--_Role_property_-->
<<<!ELEMENT ROLE_ (#PCDATA)>

<<<!--_Organization_logo_property_-->
<<<!ELEMENT LOGO_ ((TYPE, _BINVAL)_|_EXTVAL)>

<<<!--_Administrative_agent_property_-->
<<<!ELEMENT AGENT_ (vCard_|_EXTVAL)>

<<<!--_Organizational_name_and_units_property_-->
<<<!ELEMENT ORG_ (ORGNAME, _ORGUNIT*)>

<<<<<!ELEMENT ORGNAME_ (#PCDATA)>

<<<<<!ELEMENT ORGUNIT_ (#PCDATA)>

<<<!--_Application_specific_categories_property_-->
<<<!ELEMENT CATEGORIES_ (KEYWORD+)>

<<<<<!ELEMENT KEYWORD_ (#PCDATA)>

<<<!--_Commentary_note_property_-->
<<<!ELEMENT NOTE_ (#PCDATA)>

<<<!--_Identifier_of_product_that_generated_the_vCard_property_-->
<<<!ELEMENT PROPID_ (#PCDATA)>

<<<!--_Last_revised_property_The_value_must_be_an
ISO_8601_formatted_UTC_date/time_-->
<<<!ELEMENT REV_ (#PCDATA)>

<<<!--_Sort_string_property_-->
<<<!ELEMENT SORT-STRING_ (#PCDATA)>

<<<!--_Formatted_name_pronunciation_property_The_value_is
either_a_textual_phonetic_pronunciation,_a_BASE64
encoded_binary_digital_audio_pronunciation_or_a_URI_to
an_external_binary_digital_audio_pronunciation.-->
<<<!ELEMENT SOUND_ (PHONETIC_|_BINVAL_|_EXTVAL)>

<<<<<!--_Textual_phonetic_pronunciation_-->
<<<<<!ELEMENT PHONETIC_ (#PCDATA)>

<<<!--_Unique_identifier_property_-->
<<<!ELEMENT UID_ (#PCDATA)>

<<<!--_Directory_URL_property_-->

```

```
<<ELEMENT URL (#PCDATA)>

<<!-- NOTE: the following element was added by the Jabber
project (now XMPP Standards Foundation) to
handle free-form descriptive text. -->

<<ELEMENT DESC (#PCDATA)>

<<!-- Privacy classification property. -->
<<ELEMENT CLASS (PUBLIC|PRIVATE|CONFIDENTIAL)>

<<<<ELEMENT PUBLIC EMPTY>

<<<<ELEMENT PRIVATE EMPTY>

<<<<ELEMENT CONFIDENTIAL EMPTY>

<<!-- Authentication credential or encryption key property. -->
<<ELEMENT KEY (TYPE?, CRED)>

<<<<ELEMENT CRED (#PCDATA)>

<<!-- ===== -->

<<!-- Common elements. -->

<<!-- Addressing type indicators. -->
<<ELEMENT HOME EMPTY>
<<ELEMENT WORK EMPTY>
<<ELEMENT POSTAL EMPTY>
<<ELEMENT PARCEL EMPTY>
<<ELEMENT DOM EMPTY>
<<ELEMENT INTL EMPTY>
<<ELEMENT PREF EMPTY>
<<ELEMENT VOICE EMPTY>
<<ELEMENT FAX EMPTY>
<<ELEMENT PAGER EMPTY>
<<ELEMENT MSG EMPTY>
<<ELEMENT CELL EMPTY>
<<ELEMENT VIDEO EMPTY>
<<ELEMENT BBS EMPTY>
<<ELEMENT MODEM EMPTY>
<<ELEMENT ISDN EMPTY>
<<ELEMENT PCS EMPTY>
<<ELEMENT INTERNET EMPTY>
<<ELEMENT X400 EMPTY>

<<!-- Format type parameter. -->
<<ELEMENT TYPE (#PCDATA)>
```

```
<!--_Base64_encoded_binary_value_-->
<!ELEMENT_BINVAL_(#PCDATA)>

<!--_URI_to_external_binary_value_-->
<!ELEMENT_EXTVAL_(#PCDATA)>

<!--_====_-->
```