XEP-0112: User Physical Location

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Obsolete	Standards Track	physloc

This document defines a protocol for communicating information about the current physical location of a Jabber entity. NOTE WELL: The protocol defined herein has been folded into XEP-0080.

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1 Introduction

NOTE WELL: The protocol defined herein has been folded into User Geolocation (XEP-0080) [1].
This document defines an extension mechanism for capturing ”extended presence” information about a user's current physical location. The information structures defined herein are intended to provide a format for describing a location or address that may change fairly frequently (e.g., one's location on a campus or in a large building) in situations where the user or application does not possess, or does not wish to communicate, detailed latitude/longitude data of the type defined in User Geolocation (XEP-0080) [2].

2 Protocol

Information about the user's location is provided by the user and propagated on the network by the user's client. The information is structured by means of an <physloc/> element that is qualified by the 'http://jabber.org/protocol/physloc' namespace. The location information itself is provided as the XML character data of the following children of the <physloc/> element:

Element	Description	Example
<country/>	The nation where the user is located	USA
<region/>	An administrative region of the nation, such as a state or province	New York
<locality/>	A locality within the administrative region, such as a town or city	New York City
<area/>	A named area such as a campus or neighborhood	Central Park
<street/>	A thoroughfare within the locality, or a crossing of two thoroughfares	34th and Broadway
<building/>	A specific building on a street or in an area	The Empire State Building
<floor/>	A particular floor in a building	102
<room/>	A particular room in a building	Observatory
<postalcode/>	A code used for postal delivery	10027
<text/>	A catch-all element that captures any other information about the user's location	Northwest corner of the lobby

[1] XEP-0080: User Geolocation <https://xmpp.org/extensions/xep-0080.html>.
[2] XEP-0080: User Geolocation <https://xmpp.org/extensions/xep-0080.html>.

3 Usage

The <physloc/> information SHOULD be communicated by means of Publish-Subscribe (XEP-0060) [3]. Because physical location information is not pure presence information and can change independently of the user's availability, it SHOULD NOT be provided as an extension to <presence/>.

Listing 1: User Publishes Address

```
<iq type='set'
    from='stpeter@jabber.org/laptop'
    to='pubsub.jabber.org'
    id='publish1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='generic/stpeter-loc'>
      <item id='current'>
        <physloc xmlns='http://jabber.org/protocol/physloc'
                 xml:lang='en'>
          <country>Austria</country>
          <locality>Vienna</locality>
          <building>Vienna International Centre</building>
          <text>At IETF 57</text>
        </physloc>
      </item>
    </publish>
  </pubsub>
</iq>
```

The location information is then delivered to all subscribers:

Listing 2: Address is Delivered to All Subscribers

```
<message
    from='pubsub.jabber.org'
    to='jer@jabber.org/silver'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='generic/stpeter-physloc'>
      <item id='current'>
        <physloc xmlns='http://jabber.org/protocol/physloc'
                 xml:lang='en'>
          <country>Austria</country>
          <locality>Vienna</locality>
          <building>Vienna International Centre</building>
          <text>At IETF 57</text>
        </physloc>
      </item>
    </items>
```

[3] XEP-0060: Publish-Subscribe <https://xmpp.org/extensions/xep-0060.html>.

```
  </event>
</message>
.
.
.
```

As mentioned in XEP-0060, the stanza containing the event notification or payload MAY also include 'replyto' data (as specified by the Extended Stanza Addressing (XEP-0033) [4] protocol) to provide an explicit association between the published data and the user:

Listing 3: Event notification with extended stanza addressing

```
<message
    from='pubsub.jabber.org'
    to='jer@jabber.org/silver'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='generic/stpeter-physloc'>
      <item id='current'>
        <physloc xmlns='http://jabber.org/protocol/physloc'
                 xml:lang='en'>
          <country>Austria</country>
          <locality>Vienna</locality>
          <building>Vienna International Centre</building>
          <text>At IETF 57</text>
        </physloc>
      </item>
    </items>
  </event>
  <addresses xmlns='http://jabber.org/protocol/address'>
    <address type='replyto' jid='stpeter@jabber.org'/>
  </addresses>
</message>
```

4 Mapping to Other Formats

There are many XML data formats for physical location or address information. It is beyond the scope of this document to provide a mapping from the extension defined herein to every such format. However, it would be valuable to provide a mapping from the Jabber/XMPP format to the formats used in other presence or extended presence protocols. The two main protocols of interest are:

1. The Wireless Village (now "IMPS") specifications for mobile instant messaging; these specifications define a presence attribute for address information as encapsulated in

[4] XEP-0033: Extended Stanza Addressing <https://xmpp.org/extensions/xep-0033.html>.

the IMPS "Address" element [5].

2. The SIP-based SIMPLE specifications; in particular, the IETF's GEOPRIV Working Group has defined an extension to the IETF's Presence Information Data Format (PIDF) [6] for location information, as specified in RFC 4119 [7] (also known as "PIDF-LO").

The following table also maps the format defined herein to the vCard XML format specified in vcard-temp (XEP-0054) [8].

Jabber/XMPP	Wireless Village / IMPS	SIMPLE (PIDF-LO)	vCard XML
<country/>	<Country/>	<country/>	<CTRY/> As noted in XEP-0054, the XML vCard format defined in draft-dawson-vcard-xml-dtd-01 specified a <COUNTRY/> element rather than a <CTRY/> element; refer to XEP-0054 for details.
<region/>	--	<A1/> and/or <A2/>	<REGION/>
<locality/>	<City/>	<A3/>	<LOCALITY/>
<area/>	<NamedArea/>	<A4/> and/or <A5/>	--

[5] The Wireless Village Initiative: Presence Attributes v1.1 (WV-029); for further information, visit <http://www.openmobilealliance.org/tech/affiliates/wv/wvindex.html>.
[6] RFC 3863: Presence Information Data Format (PIDF) <http://tools.ietf.org/html/rfc3863>.
[7] RFC 4119: A Presence-based GEOPRIV Location Object Format <http://tools.ietf.org/html/rfc4119>.
[8] XEP-0054: vcard-temp <https://xmpp.org/extensions/xep-0054.html>.

Jabber/XMPP	Wireless Village / IMPS	SIMPLE (PIDF-LO)	vCard XML
<street/>	<Street/> The IMPS specification also enables one to define an intersection (e.g., "Broadway and 34th Street") as the combination of a <Crossing1/> element (e.g., "Broadway") and a <Crossing2/> element (e.g., "34th Street"). To map from IMPS to Jabber, an application SHOULD map such a combination to one Jabber/XMPP <street/> element.	<A6/> The PIDF-LO format provides information elements for much more granular control over a traditional street address; in PIDF-LO the <A6/> element is the street name only, and further information is provided in distinct elements for a leading street direction (e.g., "N"), trailing street suffix (e.g., "SW"), street suffix (e.g., "Avenue"), house number (e.g., "909"), and house number suffix (e.g., "1/2"). To map from PIDF-LO to Jabber, an application SHOULD construct the complete street address from the PIDF-LO elements (<A6/>, <PRD/>, <POD/>, <STS/>, <HNO/>, and <HNS/>) and map the result to one Jabber/XMPP <street/> element.	<STREET/>
<building/>	<Building/>	<LMK/>	--
<floor/>	--	<FLR/>	--
<room/>	--	--	--
<postalcode/>	--	<PC/>	<PCODE/>
<text/>	<FreeTextLocation/>	<LOC/>	<EXTADR/>

Jabber/XMPP	Wireless Village / IMPS	SIMPLE (PIDF-LO)	vCard XML
--	<Accuracy/> This element provides accuracy in meters. The geolocation protocol defined in XEP-0080 specifies such an element for Jabber/XMPP, which SHOULD be used when mapping from IMPS to Jabber.	--	--
--	--	<NAM/> This element provides a name for the location, e.g., a certain store in a building. This SHOULD be mapped to the Jabber/XMPP <text/> element.	--

5 Internationalization Considerations

Because the character data contained in most <physloc/> child elements is intended to be readable by humans, the <physloc/> element SHOULD possess an 'xml:lang' attribute specifying the natural language of such character data.

6 Security Considerations

It is imperative to control access to location information, at least by default. Imagine that a stalker got unauthorized access to this information, with enough accuracy and timeliness to be able to find the target person. This scenario could lead to loss of life, so please take access control checks seriously. A user SHOULD take care in approving subscribers and in characterizing his or her current physical location.

7 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA) [9].

8 XMPP Registrar Considerations

8.1 Protocol Namespaces

The XMPP Registrar [10] includes 'http://jabber.org/protocol/physloc' in its registry of protocol namespaces, but the namespace is deprecated.

9 XML Schema

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

<xs:schema
    xmlns:xs='http://www.w3.org/2001/XMLSchema'
    targetNamespace='http://jabber.org/protocol/physloc'
    xmlns='http://jabber.org/protocol/physloc'
    elementFormDefault='qualified'>

  <xs:element name='physloc'>
    <xs:complexType>
      <xs:sequence>
        <xs:element name='country' minOccurs='0' type='xs:string'/>
        <xs:element name='region' minOccurs='0' type='xs:string'/>
        <xs:element name='locality' minOccurs='0' type='xs:string'/>
        <xs:element name='area' minOccurs='0' type='xs:string'/>
        <xs:element name='street' minOccurs='0' type='xs:string'/>
        <xs:element name='building' minOccurs='0' type='xs:string'/>
        <xs:element name='floor' minOccurs='0' type='xs:string'/>
        <xs:element name='room' minOccurs='0' type='xs:string'/>
        <xs:element name='postalcode' minOccurs='0' type='xs:string'/>
        <xs:element name='text' minOccurs='0' type='xs:string'/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
```

[9] The 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/>.

[10] The 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/registrar/>.

```
</xs:schema>
```