



# XMPP

## XEP-0108: User Activity

Ralph Meijer  
<mailto:ralphm@ik.nu>  
<xmpp:ralphm@ik.nu>

Peter Saint-Andre  
<mailto:ksf@stpeter.im>  
<xmpp:peter@jabber.org>  
<http://stpeter.im/>

2008-10-29  
Version 1.3

Status	Type	Short Name
Draft	Standards Track	activity

This specification defines a payload format for communicating information about user activities, such as whether a person is currently working, travelling, or relaxing. The payload format is typically transported using the personal eventing protocol, a profile of XMPP publish-subscribe specified in XEP-0163.

# Legal

## Copyright

This XMPP Extension Protocol is copyright © 1999 – 2018 by the [XMPP Standards Foundation](#) (XSF).

## Permissions

Permission is hereby granted, free of charge, to any person obtaining a copy of this specification (the "Specification"), to make use of the Specification without restriction, including without limitation the rights to implement the Specification in a software program, deploy the Specification in a network service, and copy, modify, merge, publish, translate, distribute, sublicense, or sell copies of the Specification, and to permit persons to whom the Specification is furnished to do so, subject to the condition that the foregoing copyright notice and this permission notice shall be included in all copies or substantial portions of the Specification. Unless separate permission is granted, modified works that are redistributed shall not contain misleading information regarding the authors, title, number, or publisher of the Specification, and shall not claim endorsement of the modified works by the authors, any organization or project to which the authors belong, or the XMPP Standards Foundation.

## Warranty

## NOTE WELL: This Specification is provided on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. ##

## Liability

In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall the XMPP Standards Foundation or any author of this Specification be liable for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising from, out of, or in connection with the Specification or the implementation, deployment, or other use of the Specification (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if the XMPP Standards Foundation or such author has been advised of the possibility of such damages.

## Conformance

This XMPP Extension Protocol has been contributed in full conformance with the XSF's Intellectual Property Rights Policy (a copy of which can be found at <https://xmpp.org/about/xsf/ipr-policy>) or obtained by writing to XMPP Standards Foundation, P.O. Box 787, Parker, CO 80134 USA).

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Protocol</b>	<b>1</b>
2.1	Data Format . . . . .	1
2.2	Pubsub Transport . . . . .	2
<b>3</b>	<b>Activity Values</b>	<b>4</b>
<b>4</b>	<b>Mapping to RPID</b>	<b>7</b>
<b>5</b>	<b>Internationalization Considerations</b>	<b>8</b>
<b>6</b>	<b>Security Considerations</b>	<b>8</b>
<b>7</b>	<b>IANA Considerations</b>	<b>8</b>
<b>8</b>	<b>XMPP Registrar Considerations</b>	<b>9</b>
8.1	Protocol Namespaces . . . . .	9
<b>9</b>	<b>XML Schema</b>	<b>9</b>

## 1 Introduction

This document defines an extension mechanism for capturing "extended presence" data about user activities, above and beyond availability as defined in [XMPP IM](#)<sup>1</sup> (e.g., the 'away', 'extended away', and 'dnd' values of the <show/> child of the <presence/> stanza).

## 2 Protocol

### 2.1 Data Format

Information about user activities is provided by the user and propagated on the network by the user's client. The information is structured by means of an <activity/> element that is qualified by the 'http://jabber.org/protocol/activity' namespace. The general activity is provided as the element name of a first-level child of the <activity/> element (e.g., <relaxing/>); one such general activity element is REQUIRED. The general activity element MAY contain a child element that specifies a more particular form of the general activity (e.g., <partying/>). The user MAY also specify a natural-language description of the activity in the OPTIONAL <text/> child of the <activity/> element. Here is an example:

```
<activity xmlns='http://jabber.org/protocol/activity'>
  <relaxing>
    <partying/>
  </relaxing>
  <text xml:lang='en'>My nurse's birthday!</text>
</activity>
```

Instead of (but not in addition to) one of the specific activity elements defined herein, an application MAY include a properly-namespaced child element for the specific activity. Here is an example:

```
<activity xmlns='http://jabber.org/protocol/activity'>
  <relaxing>
    <tanning xmlns='http://www.ilovetanning.info'/>
  </relaxing>
</activity>
```

Finally, one of the specific activity elements defined herein MAY itself contain a properly-namespaced child element that provides more detailed information about the specific activity. Here is an example:

```
<activity xmlns='http://jabber.org/protocol/activity'>
```

---

<sup>1</sup>RFC 6121: Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence <<http://tools.ietf.org/html/rfc6121>>.

```

<inactive>
  <sleeping>
    <hibernating xmlns='http://www.ursus.info/states' />
  </sleeping>
</inactive>
</activity>

```

In accordance with [XMPP Core](#)<sup>2</sup>, the receiving application MUST ignore a specific activity element or detailed activity element if it does not understand the namespace that qualifies the element.

## 2.2 Pubsub Transport

Activity information SHOULD be communicated and transported by means of the [Publish-Subscribe \(XEP-0060\)](#)<sup>3</sup> subset specified in [Personal Eventing Protocol \(XEP-0163\)](#)<sup>4</sup>. Because activity 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 Activity

```

<iq type='set'
  from='juliet@capulet.lit/ca486eba-0f9a-11dc-8835-000bcd821bfb'
  id='publish1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='http://jabber.org/protocol/activity'>
      <item>
        <activity xmlns='http://jabber.org/protocol/activity'>
          <relaxing>
            <partying />
          </relaxing>
          <text xml:lang='en'>My nurse's birthday!</text>
        </activity>
      </item>
    </publish>
  </pubsub>
</iq>

```

The activity is then delivered to all subscribers:

Listing 2: Activity is Delivered to All Subscribers

```

<message
  from='juliet@capulet.lit'

```

<sup>2</sup>RFC 6120: Extensible Messaging and Presence Protocol (XMPP): Core <<http://tools.ietf.org/html/rfc6120>>.

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

<sup>4</sup>XEP-0163: Personal Eventing Protocol <<https://xmpp.org/extensions/xep-0163.html>>.

```

    to='romeo@montague.lit'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='http://jabber.org/protocol/activity'>
      <item id='b5ac48d0-0f9c-11dc-8754-001143d5d5db'>
        <activity xmlns='http://jabber.org/protocol/activity'>
          <relaxing>
            <partying/>
          </relaxing>
          <text xml:lang='en'>My nurse's birthday!</text>
        </activity>
      </item>
    </items>
  </event>
</message>

```

In order to indicate that the user is no longer publishing activities, the user's client shall send an empty <activity/> element, which can be considered a "stop command" for user activities:

Listing 3: User Disables Publishing

```

<iq from='juliet@capulet.lit/balcony'
  id='publish1'
  type='set'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='http://jabber.org/protocol/activity'>
      <item>
        <activity xmlns='http://jabber.org/protocol/activity' />
      </item>
    </publish>
  </pubsub>
</iq>

```

Listing 4: Empty Activity Information is Delivered to All Subscribers

```

<message
  from='juliet@capulet.lit'
  to='romeo@montague.net'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='http://jabber.org/protocol/activity'>
      <item id='b5ac48d0-0f9c-11dc-8754-001143d5d5db'>
        <activity xmlns='http://jabber.org/protocol/activity' />
      </item>
    </items>
  </event>
</message>

```

### 3 Activity Values

Each activity has a REQUIRED general category and an OPTIONAL specific instance. One can understand each specifier as '[user] is [activity]' (e.g., 'Juliet is partying'), where the relevant value is the most specific activity provided (e.g., specifically "partying" rather than generally "relaxing").

The activity values defined in this taxonomy are as follows, where the first indentation level is the general category and the second indentation level is the specific instance. Note: The specific activity elements are RECOMMENDED as forms of the general activities shown below, but can be included under any general activity (e.g., "gardening" could be used as the specific activity under "relaxing" rather than "doing\_chores").

- doing\_chores
  - buying\_groceries
  - cleaning
  - cooking
  - doing\_maintenance
  - doing\_the\_dishes
  - doing\_the\_laundry
  - gardening
  - running\_an\_errand
  - walking\_the\_dog
- drinking
  - having\_a\_beer
  - having\_coffee
  - having\_tea
- eating
  - having\_a\_snack
  - having\_breakfast
  - having\_dinner
  - having\_lunch
- exercising
  - cycling
  - dancing
  - hiking

- jogging
- playing\_sports
- running
- skiing
- swimming
- working\_out
- grooming
  - at\_the\_spa
  - brushing\_teeth
  - getting\_a\_haircut
  - shaving
  - taking\_a\_bath
  - taking\_a\_shower
- having\_appointment
- inactive
  - day\_off
  - hanging\_out
  - hiding
  - on\_vacation
  - praying
  - scheduled\_holiday
  - sleeping
  - thinking
- relaxing
  - fishing
  - gaming
  - going\_out
  - partying
  - reading
  - rehearsing
  - shopping
  - smoking



- socializing
- sunbathing
- watching\_tv
- watching\_a\_movie
- talking
  - in\_real\_life
  - on\_the\_phone
  - on\_video\_phone
- traveling
  - commuting
  - cycling
  - driving
  - in\_a\_car
  - on\_a\_bus
  - on\_a\_plane
  - on\_a\_train
  - on\_a\_trip
  - walking
- working
  - coding
  - in\_a\_meeting
  - studying
  - writing

In addition, the specific activity element can be <other/> in order to handle activities not defined herein. <sup>5</sup>

---

<sup>5</sup>In the absence of a <text/> element, the recipient is free to draw whatever conclusions he or she may like regarding the nature of the "other" activity. Naturally, emoticons can be provided as the XML character data of the <text/> element. ;-)

## 4 Mapping to RPID

RFC 4480 <sup>6</sup> defines several extensions to the [Presence Information Data Format \(PIDF\)](#) <sup>7</sup> for so-called "rich presence". One such extension is the <activity/> element (see Section 4.2), which "describes what the presentity is currently doing". The following table shows a mapping from the defined RPID activity values to the Jabber values defined herein.

RPID <activity/>	General activity element	Specific activity element
appointment	having_appointment	--
away	In XMPP, "away" is not an activity, but an availability state captured by means of a <presence/> stanza with a <show>away</show> child (see XMPP IM).	
busy	In XMPP, "busy" is not an activity, but an availability state captured by means of a <presence/> stanza with <show>dnd</show> child (see XMPP IM). Alternatively, the RPID "busy" activity could map to any number of more specific Jabber activities as defined herein.	
holiday	inactive	scheduled_holiday
in-transit	traveling	Appropriate specific values in the "traveling" category would be "in_a_car", "on_a_bus", and "on_a_train".
meal	eating	The "eating" category can be further specified by "having_a_snack", "having_breakfast", "having_lunch", or "having_dinner".
meeting	working	in_a_meeting
on-the-phone	talking	on_the_phone
performance	--	--

<sup>6</sup>RFC 4480: RPID: Rich Presence Extensions to the Presence Information Data Format (PIDF) <<http://tools.ietf.org/html/rfc4480>>.

<sup>7</sup>RFC 3863: Presence Information Data Format (PIDF) <<http://tools.ietf.org/html/rfc3863>>.

RPID <activity/>	General activity element	Specific activity element
permanent-absence	In XMPP, "permanent absence" is not an activity, but instead would be sent to a contact via the <gone/> stanza error (see XMPP Core RFC 6120: Extensible Messaging and Presence Protocol (XMPP): Core < <a href="http://tools.ietf.org/html/rfc6120">http://tools.ietf.org/html/rfc6120</a> >.).	
sleeping	inactive	sleeping
steering	traveling	driving
travel	traveling	on_a_trip
vacation	inactive	on_vacation

The full range of activities defined herein is considerably richer than that defined in RPID; no mapping to RPID is provided by this specification for activity values that are not present in RPID, and any such mapping is the responsibility of a gateway between the two systems.

## 5 Internationalization Considerations

The XML character data values of the <text/> element are intended for presentation to human users; therefore, if a <text/> element is included the sending application SHOULD also ensure that the <text/> element or the parent <activity/> element possesses an 'xml:lang' attribute with an appropriate value.

## 6 Security Considerations

Because user activities may be published to a large number of pubsub subscribers, users should take care in approving subscribers and in characterizing their current activities.

## 7 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)<sup>8</sup>.

---

<sup>8</sup>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/>.

## 8 XMPP Registrar Considerations

### 8.1 Protocol Namespaces

The XMPP Registrar<sup>9</sup> includes 'http://jabber.org/protocol/activity' in its registry of protocol namespaces.

## 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/activity'
  xmlns='http://jabber.org/protocol/activity'
  elementFormDefault='qualified'>

  <xs:element name='activity'>
    <xs:complexType>
      <xs:sequence>
        <xs:choice minOccurs='0'>
          <xs:element name='doing_chores' type='general'/>
          <xs:element name='drinking' type='general'/>
          <xs:element name='eating' type='general'/>
          <xs:element name='exercising' type='general'/>
          <xs:element name='grooming' type='general'/>
          <xs:element name='having_appointment' type='general'/>
          <xs:element name='inactive' type='general'/>
          <xs:element name='relaxing' type='general'/>
          <xs:element name='talking' type='general'/>
          <xs:element name='traveling' type='general'/>
          <xs:element name='undefined' type='general'/>
          <xs:element name='working' type='general'/>
        </xs:choice>
        <xs:element name='text' minOccurs='0' type='xs:string'/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>

  <xs:complexType name='general'>
    <xs:choice minOccurs='0'>
      <xs:choice minOccurs='0'>
        <xs:element name='at_the_spa' type='specific'/>
      </xs:choice>
    </xs:choice>
  </xs:complexType>
</xs:schema>
```

<sup>9</sup>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:element name='brushing_teeth' type='specific'/>
<xs:element name='buying_groceries' type='specific'/>
<xs:element name='cleaning' type='specific'/>
<xs:element name='coding' type='specific'/>
<xs:element name='commuting' type='specific'/>
<xs:element name='cooking' type='specific'/>
<xs:element name='cycling' type='specific'/>
<xs:element name='dancing' type='specific'/>
<xs:element name='day_off' type='specific'/>
<xs:element name='doing_maintenance' type='specific'/>
<xs:element name='doing_the_dishes' type='specific'/>
<xs:element name='doing_the_laundry' type='specific'/>
<xs:element name='driving' type='specific'/>
<xs:element name='fishing' type='specific'/>
<xs:element name='gaming' type='specific'/>
<xs:element name='gardening' type='specific'/>
<xs:element name='getting_a_haircut' type='specific'/>
<xs:element name='going_out' type='specific'/>
<xs:element name='hanging_out' type='specific'/>
<xs:element name='having_a_beer' type='specific'/>
<xs:element name='having_a_snack' type='specific'/>
<xs:element name='having_breakfast' type='specific'/>
<xs:element name='having_coffee' type='specific'/>
<xs:element name='having_dinner' type='specific'/>
<xs:element name='having_lunch' type='specific'/>
<xs:element name='having_tea' type='specific'/>
<xs:element name='hiding' type='specific'/>
<xs:element name='hiking' type='specific'/>
<xs:element name='in_a_car' type='specific'/>
<xs:element name='in_a_meeting' type='specific'/>
<xs:element name='in_real_life' type='specific'/>
<xs:element name='jogging' type='specific'/>
<xs:element name='on_a_bus' type='specific'/>
<xs:element name='on_a_plane' type='specific'/>
<xs:element name='on_a_train' type='specific'/>
<xs:element name='on_a_trip' type='specific'/>
<xs:element name='on_the_phone' type='specific'/>
<xs:element name='on_vacation' type='specific'/>
<xs:element name='on_video_phone' type='specific'/>
<xs:element name='other' type='specific'/>
<xs:element name='partying' type='specific'/>
<xs:element name='playing_sports' type='specific'/>
<xs:element name='praying' type='specific'/>
<xs:element name='reading' type='specific'/>
<xs:element name='rehearsing' type='specific'/>
<xs:element name='running' type='specific'/>
<xs:element name='running_an_errand' type='specific'/>
<xs:element name='scheduled_holiday' type='specific'/>
<xs:element name='shaving' type='specific'/>
```

```
<xs:element name='shopping' type='specific' />
<xs:element name='skiing' type='specific' />
<xs:element name='sleeping' type='specific' />
<xs:element name='smoking' type='specific' />
<xs:element name='socializing' type='specific' />
<xs:element name='studying' type='specific' />
<xs:element name='sunbathing' type='specific' />
<xs:element name='swimming' type='specific' />
<xs:element name='taking_a_bath' type='specific' />
<xs:element name='taking_a_shower' type='specific' />
<xs:element name='thinking' type='specific' />
<xs:element name='walking' type='specific' />
<xs:element name='walking_the_dog' type='specific' />
<xs:element name='watching_a_movie' type='specific' />
<xs:element name='watching_tv' type='specific' />
<xs:element name='working_out' type='specific' />
<xs:element name='writing' type='specific' />
</xs:choice>
<xs:any namespace='##other' />
</xs:choice>
</xs:complexType>

<xs:complexType name='specific'>
  <xs:sequence minOccurs='0'>
    <xs:any namespace='##other' />
  </xs:sequence>
</xs:complexType>

</xs:schema>
```