XEP-0149: Time Periods

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This document defines a method to specify the valid time periods for states, events, and activities communicated via Jabber/XMPP protocols.

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Contents

1 Introduction

Certain events and states may last for only a limited period of time. For example, when a person changes his availability to "dnd" and his status to "In a Meeting", the person (or his calendaring application) may know that the meeting is expected to last for 90 minutes; because those who subscribe to the person's presence may find it helpful to know how long the person will be in the meeting, it might be desirable to include that time period information in the presence stanza sent when the person's availability changes. Similar considerations apply to other states, events, and activities, such as various forms of "extended presence" (see Extended Presence Protocol Suite (XEP-0119) [1]).

This document defines a straightforward XMPP extension for encapsulating information about time periods, using new headers that adhere to the format specified in Stanza Headers and Internet Metadata (XEP-0131) [2].

2 Requirements

This document addresses the following requirements:

1. Provide the ability to specify time periods for states, events, and activities communicated via Jabber/XMPP protocols.

2. Conform to XMPP Date and Time Profiles (XEP-0082) [3].

3 Protocol

In order to specify the time period for a state, event, or activity, the generating entity SHOULD include both "Start" and "Stop" SHIM headers that specify the dateTimes at which the time period starts and stops. The following rules apply:

1. All start and stop dates MUST conform to the dateTime profile specified in XMPP Date and Time Profiles (XEP-0082) [4].

2. All dateTime information MUST be expressed in UTC (i.e., with no timezone offsets).

3. Start and stop times SHOULD be understood by the recipient as estimates or approximations.

4. If both a start time and a stop time are specified, the stop time MUST be later than the start time.

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[1] XEP-0119: Extended Presence Protocol Suite <https://xmpp.org/extensions/xep-0119.html>.
[2] XEP-0131: Stanza Headers and Internet Metadata <https://xmpp.org/extensions/xep-0131.html>.
[3] XEP-0082: XMPP Date and Time Profiles <https://xmpp.org/extensions/xep-0082.html>.
[4] XEP-0082: XMPP Date and Time Profiles <https://xmpp.org/extensions/xep-0082.html>.

These SHIM headers MAY be included wherever appropriate; however, it is expected that they will be included mainly to further specify basic presence states (see RFC 3921 [5]) and various "extended presence" states, events, and activities (see, for example, User Mood (XEP-0107) [6] and User Activity (XEP-0108) [7]).

There is no requirement that the start time needs to be the time when the stanza is generated; for example, the start time may be retroactive to a dateTime in the past or may be an estimated dateTime in the future.

4 Examples

4.1 Basic Presence

In order to specify that a basic presence state will last for a specific time period, the entity that generates the presence stanza SHOULD include the desired SHIM headers.

Listing 1: Basic Presence With Time Period

```
<presence>
  <show>dnd</show>
  <status>In a Meeting</status>
  <headers xmlns='http://jabber.org/protocol/shim'>
    <header name='Stop'>2005-03-17T11:30:00Z</header>
  </headers>
</presence>
```

4.2 User Activity

An XMPP extension for user activity is specified in User Activity (XEP-0108) [8]. It may be desirable to include time period information when publishing one's activity.

Listing 2: User Activity With Time Period

```
<iq type='set'
    from='juliet@capulet.com/balcony'
    to='pubsub.shakespeare.lit'
    id='activity1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='generic/juliet-activity'>
      <item id='current'>
```

---

[5]RFC 3921: Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence <http://tools.ietf.org/html/rfc3921>.

[6]XEP-0107: User Mood <https://xmpp.org/extensions/xep-0107.html>.

[7]XEP-0108: User Activity <https://xmpp.org/extensions/xep-0108.html>.

[8]XEP-0108: User Activity <https://xmpp.org/extensions/xep-0108.html>.

```
        <activity xmlns='http://jabber.org/protocol/activity'>
          <relaxing>
            <partying/>
          </relaxing>
          <text xml:lang='en'>My best friend&apos;s birthday!</text>
        </activity>
        <headers xmlns='http://jabber.org/protocol/shim'>
          <header name='Start'>2005-03-17T19:00:00Z</header>
          <header name='Stop'>2005-03-17T23:00:00Z</header>
        </headers>
      </item>
    </publish>
  </pubsub>
</iq>
```

4.3 User Mood

An XMPP extension for user mood is specified in User Mood (XEP-0107) [9]. It may be desirable to include time period information when publishing one's mood.

Listing 3: User Mood With Time Period

```
<iq type='set'
    from='juliet@capulet.com/balcony'
    to='pubsub.shakespeare.lit'
    id='mood1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='generic/juliet-mood'>
      <item id='current'>
        <mood xmlns='http://jabber.org/protocol/mood'>
          <annoyed/>
          <text>She has been bothering me *all day*!</text>
        </mood>
        <headers xmlns='http://jabber.org/protocol/shim'>
          <header name='Start'>2005-03-17T07:00:00Z</header>
        </headers>
      </item>
    </publish>
  </pubsub>
</iq>
```

Note that the start time is (intended to be) retroactive.

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[9]XEP-0107: User Mood <https://xmpp.org/extensions/xep-0107.html>.

5 Implementation Notes

For the sake of interoperability, it may be desirable for certain kinds of implementations (e.g., gateways) to transform XMPP start and stop times into the formats used by other protocols (e.g., the 'from' and 'until' attributes specified in RFC 4480 [10], see also RFC 4481 [11]).

6 Security Considerations

It is possible that inclusion of time periods for particular states, events, or activities may reveal information that would enable a recipient to launch an attack while the sender is unavailable or away (e.g., if the sender specifies that he will be on vacation for the next three weeks, a recipient might therefore learn that this is a good time to break into the sender's house). Therefore, senders of time period information should balance the desire to share helpful information against the need for appropriate control over security-critical availability information.

7 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA) [12].

8 XMPP Registrar Considerations

8.1 SHIM Headers

The XMPP Registrar [13] includes the following entries in its registry of SHIM headers (see <https://xmpp.org/registrar/shim.html>).

```
<header>
  <name>Start</name>
  <desc>The dateTime at which a state, event, or activity starts</desc
    >
```

---

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

[11]RFC 4481: Timed Presence Extensions to the Presence Information Data Format (PIDF) to Indicate Status Information for Past and Future Time Intervals <http://tools.ietf.org/html/rfc4481>.

[12]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/>.

[13]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/>.

```
  <doc>XEP-0149</doc>
</header>

<header>
  <name>Stop</name>
  <desc>The dateTime at which a state, event, or activity stops</desc>
  <doc>XEP-0149</doc>
</header>
```