XEP-0224: Attention

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This document defines an XMPP protocol extension for getting the attention of another user.

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1 Introduction

Even though a client might be available (as stated in the most recent presence stanza), the user this client belongs to might not be focused on the client currently. Presence Obtained via Kinesthetic Excitation (POKE) (XEP-0132) [1] defines a method for a physical test of user presence. Since this requires special hardware that cannot be assumed to be available, this XEP defines a software-only implementation where no direct feedback is expected. This feature is known as 'nudge' or 'buzz' in some non-XMPP IM protocols.
It was discussed whether this feature belongs in Chat State Notifications (XEP-0085) [2]. However, the semantics are inherently different, since Chat State Notifications describe the sender's state, not a request to change the receiver's. Thus, a separate extension is desirable.

2 Requirements

The specification addresses remotely getting the user's attention in a more assertive way than simple text messages.

3 Protocol

In the following conversation, a user talks to somebody, but this user doesn't respond. The second inquiry includes an attention extension.

Listing 1: User sends a regular message

```
<message from='calvin@usrobots.lit/lab'
         to='herbie@usrobots.lit/home'
         type='chat'>
  <body>All right, then, Herbie, give! We're waiting.</body>
</message>
```

When no reply is received, the sending user might want to grab the other's attention. This is done by sending a message that includes an <attention/> element qualified by the 'urn:xmpp:attention:0' namespace (see Namespace Versioning regarding the possibility of incrementing the version number). Note: The message MAY include a <body/> element.

Listing 2: User tries to capture the other's attention

```
<message from='calvin@usrobots.lit/lab'
         to='herbie@usrobots.lit/home'
```

[1] XEP-0132: Presence Obtained via Kinesthetic Excitation (POKE) <https://xmpp.org/extensions/xep-0132.html>.
[2] XEP-0085: Chat State Notifications <https://xmpp.org/extensions/xep-0085.html>.

```
        type='headline'>
  <attention xmlns='urn:xmpp:attention:0'/>
  <body>Why don't you answer, Herbie?</body>
</message>
```

Finally, the receiving user notices the urgency of the message and responds.

Listing 3: The user whose attention has been captured responds.

```
<message from='herbie@usrobots.lit/home'
         to='calvin@usrobots.lit/lab'
         type='chat'>
  <body>I cannot. You know I cannot! Dr. Bogert and Dr. Lanning don't
     want me to.</body>
</message>
```

4 Business Rules

The following rules apply to generating and processing of the attention extension.

1. Before sending an attention message stanza, the client SHOULD confirm support for it in the other client as described under Determining Support.
2. The message stanza containing the attention extension MAY contain a body and/or other extensions, which is to be displayed along with executing the attention event.
3. In message stanzas containing either Delayed Delivery (XEP-0203) [3] data, attention extensions MUST be ignored, since the attention request is an instant event which SHOULD NOT be replayed after a delay.
4. Messages containing an attention extension SHOULD use the headline message type to avoid offline storage.
5. The attention extension MUST NOT be sent in <iq/> stanzas, since use of this feature is part of a messaging conversation.

5 Determining Support

If an entity wishes to receive the attention extension, it MUST advertise that fact in its responses to Service Discovery (XEP-0030) [4] information ("disco#info") requests by returning a feature of "urn:xmpp:attention:0":

[3] XEP-0203: Delayed Delivery <https://xmpp.org/extensions/xep-0203.html>.
[4] XEP-0030: Service Discovery <https://xmpp.org/extensions/xep-0030.html>.

Listing 4: A disco#info query

```
<iq type='get'
    from='calvin@usrobots.lit/lab'
    to='herbie@usrobots.lit/home'
    id='disco1'>
  <query xmlns='http://jabber.org/protocol/disco#info'/>
</iq>
```

Listing 5: A disco#info response

```
<iq type='result'
    from='herbie@usrobots.lit/home'
    to='calvin@usrobots.lit/lab'
    id='disco1'>
  <query xmlns='http://jabber.org/protocol/disco#info'>
    <feature var='urn:xmpp:attention:0'/>
  </query>
</iq>
```

In order for an application to determine whether an entity supports this protocol, where possible it SHOULD use the dynamic, presence-based profile of service discovery defined in Entity Capabilities (XEP-0115) [5]. However, if an application has not received entity capabilities information from an entity, it SHOULD use explicit service discovery instead.

6 Implementation Notes

The implementation of the alert is up to the developer. Possible behavior includes:

- Shaking the window.
- Playing a specific sound not used for any other event.
- Flashing the screen.
- Enabling external hardware such as flashing lights.
- Let it be user customizable.

Because some users might not want this feature to disturb them, a client MUST either (1) allow the user to disable support or (2) disable the feature by default and process attention requests only if the user has explicitly enabled support. When the feature is disabled, it MUST NOT be advertised in disco#info.
Rate-limiting might be desirable in some implementations.
Formal feedback in response to the attention request to the requesting user is not specified, and so the request might be silently dropped.

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

7 Security Considerations

It is RECOMMENDED that a client accept message stanzas containing the attention extension only contacts that are in the user's roster or with whom the user's client is currently sharing directed presence, mainly to prevent the user from being annoyed by attention requests from random entities on the network. A client could implement finer-grained control if desired (e.g., allow attention requests only from entities in a particular roster group).

8 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA) [6].

9 XMPP Registrar Considerations

9.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:attention:0

The XMPP Registrar [7] includes this namespace in the registry located at <https://xmpp.org/registrar/namespaces.html>, as described in Section 4 of XMPP Registrar Function (XEP-0053) [8].

9.2 Protocol Versioning

If the protocol defined in this specification undergoes a revision that is not fully backwards-compatible with an older version, the XMPP Registrar shall increment the protocol version number found at the end of the XML namespaces defined herein, as described in Section 4 of XEP-0053.

[6] 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/>.

[7] 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/>.

[8] XEP-0053: XMPP Registrar Function <https://xmpp.org/extensions/xep-0053.html>.

10 XML Schema

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

<xs:schema
    xmlns:xs='http://www.w3.org/2001/XMLSchema'
    targetNamespace='urn:xmpp:attention:0'
    xmlns='urn:xmpp:attention:0'
    elementFormDefault='qualified'>

  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      XEP-0224: http://www.xmpp.org/extensions/xep-0224.html
    </xs:documentation>
  </xs:annotation>

  <xs:element name='attention' type='empty'/>

  <xs:simpleType name='empty'>
    <xs:restriction base='xs:string'>
      <xs:enumeration value=''/>
    </xs:restriction>
  </xs:simpleType>

</xs:schema>
```

11 Acknowledgements

The quotes have been taken from Isaac Asimov's short story "Liar!" as published in the book The Complete Robot.