XEP-0172: User Nickname

Peter Saint-Andre
mailto:stpeter@jabber.org
xmpp:stpeter@jabber.org
https://stpeter.im/

Valerie Mercier
mailto:valerie.mercier@orange-ftgroup.com
xmpp:vmercier@jabber.com

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This specification defines a protocol for communicating user nicknames, either in XMPP presence subscription requests or in XMPP messages.

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Contents

1 Introduction

A nickname is a global, memorable (but not necessarily unique) friendly or informal name chosen by the owner of a bare JID <localpart@domain.tld> for the purpose of associating a distinctive mapping between the person's unique JID and non-unique nickname. While nicknames have been a common feature of instant messaging systems for many years, they have not always featured prominently in Jabber/XMPP IM systems (e.g., nicknames are not specified in RFC 3921 [1]). However, there are several reasons why nicknames are important:

- Users like them.

- They are easier to remember than JIDs.

- They can be used to help prevent mimicking of JIDs (see Best Practices to Prevent JID Mimicking [2]).

This document defines best practices that enable IM users to advertise their preferred nicknames over Jabber/XMPP instant messaging networks.

2 Terminology

This proposal draws a distinction between the following kinds of names, where a JID is an innate feature of a user's identity on an XMPP system, a nickname is asserted by a user, and a handle is assigned by a contact to a user.

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

[2] XEP-0165: Best Practices to Prevent JID Mimicking <http://xmpp.org/extensions/xep-0165.html>.

Name	Definition
Jabber ID (JID)	A global and unique XMPP identifier registered to a particular user, of the form <localpart@domain.tld>; represented in the 'from' attribute of XML stanzas sent by that user, the 'jid' attribute of items associated with that user in a contact's roster, etc.
Nickname	A global and memorable (but not necessarily unique) friendly name or informal name asserted by an IM user. Typically, a nickname is different from a familiar name, such as "Chuck" for "Charles", "Bill" for "William", "Pete" for "Peter", or "Dave" for "David"; instead, a nickname is even less formal, such as "stpeter" or "dizzyd". A nickname is thus typically different from a "display name" as that term is understood in SMTP (see RFC 2821 RFC 2821: Simple Mail Transfer Protocol <http://tools.ietf.org/html/rfc2821>.) and SIP (see RFC 3261 RFC 3261: Session Initiation Protocol (SIP) <http://tools.ietf.org/html/rfc3261>.).
Handle	A private, unique, and memorable "petname" or "alias" assigned by a contact to a user; represented in the 'name' attribute of the item associated with that user's JID in the contact's roster. In RFC 3921, the name here called a "handle" is described as an "alias"; rfc3921 will be modified to use the term "handle" instead.

3 Format

A nickname MUST be encapsulated as the XML character data of a <nick/> element qualified by the 'http://jabber.org/protocol/nick' namespace. Here is an example:

Listing 1: A Nickname

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

A nickname of this form has the same semantic meaning as the following data fields:

- The "NICKNAME" field specified in vcard-temp [3].

- The "nickname" field specified in User Profile [4].

- The "nickname" field specified in In-Band Registration [5].

- The "nick" field specified in Friend of a Friend (FOAF) [6].

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[3]XEP-0054: vcard-temp <http://xmpp.org/extensions/xep-0054.html>.
[4]XEP-0154: User Profile <http://xmpp.org/extensions/xep-0154.html>.
[5]XEP-0077: In-Band Registration <http://xmpp.org/extensions/xep-0077.html>.
[6]Friend of a Friend (FOAF) <http://xmlns.com/foaf/0.1/>.

- The "Alias" field specified in the Extensible Name and Address Language [7] developed by OASIS [8].

The entity to which the <nick/> refers is the from address (no matter how encapsulated in XML) of the nearest ancestor element that specifies the sender (which might be a parent or grandparent element, e.g. the 'from' attribute of an <iq/> stanza).

4   Use Cases

In general, a user SHOULD include his or her nickname when establishing initial communication with a contact or group of contacts (i.e., the user has never been in communication with and does not have a prior relationship with the contact or group of contacts). Appropriate use cases therefore include:

- Presence subscription requests

- Message exchange

- Multi-user chat

- Waiting lists

4.1   Presence Subscription Requests

As defined in RFC 3921, a presence subscription request contains only the JID of the sender:

Listing 2: A Basic Subscription Request

```
<presence from='narrator@moby-dick.lit' to='starbuck@moby-dick.lit'
    type='subscribe'/>
```

Naturally, based on the JID of the sender, it is possible for the client to pull information about the sender from a persistent data store such as an LDAP database, vcard-temp [9] node, or XEP-0154 store. However, to speed interactions, this document recommends that when a client sends a subscription request, it SHOULD include the preferred nickname of the sender:

Listing 3: Including Nickname with Subscription Request

```
<presence from='narrator@moby-dick.lit' to='starbuck@moby-dick.lit'
    type='subscribe'>
  <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
</presence>
```

---

[7]See <http://xml.coverpages.org/xnal.html>.

[8]OASIS is a not-for-profit, international consortium that drives the development, convergence and adoption of e-business standards. For further information, see <http://www.oasis-open.org/>.

[9]XEP-0054: vcard-temp <http://xmpp.org/extensions/xep-0054.html>.

Note: This document recommends sending the nickname only in presence subscription requests; the nickname MUST NOT be included in presence broadcasts (i.e., <presence/> stanzas with no 'type' attribute or of type "unavailable").

4.2 Message Exchange

When a user begins to chat with a contact but the two parties have no pre-existing relationship or prior communications (e.g., no presence subscription or previous message exchange), the user SHOULD include the nickname with the first message sent to the contact:

Listing 4: Including Nickname with First Message

```
<message from='narrator@moby-dick.lit/pda' to='starbuck@moby-dick.lit'
    type='chat'>
  <body>Call me Ishmael</body>
  <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
</message>
```

4.3 Multi-User Chat

Multi-User Chat [10] defines a protocol for groupchat rooms. A user specifies a "room nickname" when joining such a room (the resource identifier of the 'to' address):

Listing 5: A Basic Room Join Request

```
<presence from='narrator@moby-dick.lit/pda' to='pequod@muc.moby-dick.
    lit/narrator'/>
```

A user MAY specify his or her persistent nickname as well. This may be desirable because the user's preferred room nickname is already taken or because the service "locks down" room nicknames.

Listing 6: Including Nickname with Room Join Request

```
<presence from='narrator@moby-dick.lit/pda' to='pequod@muc.moby-dick.
    lit/narrator'>
  <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
</presence>
```

If a user includes his or her persistent nickname in the room join request, the nickname SHOULD also be included in any presence changes sent to the room:

---

[10]XEP-0045: Multi-User Chat <http://xmpp.org/extensions/xep-0045.html>.

Listing 7: Presence Change With Nickname

```
<presence from='narrator@moby-dick.lit/pda' to='pequod@muc.moby-dick.
    lit/narrator'>
  <show>away</show>
  <status>writing</status>
  <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
</presence>
```

A nickname may also be included in a MUC room invitation:

Listing 8: Occupant Sends MUC Invitation

```
<message from='narrator@moby-dick.lit/pda' to='pequod@muc.moby-dick.
    lit'>
  <x xmlns='http://jabber.org/protocol/muc#user'>
    <invite to='starbuck@moby-dick.lit'>
      <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
    </invite>
  </x>
</message>
```

Although the foregoing stanza may seem to violate the rule about associating a nick with the nearest ancestor element that specifies the sender's JID, the output from the MUC room does not violate that rule, since the room swaps the to and from addresses before sending the invitation to the invitee:

Listing 9: MUC Room Forwards Invitation

```
<message from='pequod@muc.moby-dick.lit' to='starbuck@moby-dick.lit'>
  <x xmlns='http://jabber.org/protocol/muc#user'>
    <invite from='narrator@moby-dick.lit'>
      <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
    </invite>
  </x>
</message>
```

4.4 Waiting Lists

Waiting Lists [11] defines a protocol that enables a user to be informed when a contact signs up for an IM account. The user MAY include his or her nick in the request so that the contact can associate a nickname with the request.

Listing 10: IM User Requests Addition of Contact to WaitingList

```
<iq type='set'
```

---

[11]XEP-0130: Waiting Lists <http://xmpp.org/extensions/xep-0130.html>.

```
      from='narrator@moby-dick.lit'
      to='waitlist.mody-dick.lit'
      id='wl1'>
  <query xmlns='http://jabber.org/protocol/waitinglist'>
    <item>
      <uri scheme='tel'>+45-555-1212</uri>
    </item>
    <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
  </query>
</iq>
```

Naturally, the WaitingListService SHOULD pass the nick on to its InteropPartners as well:

Listing 11: ServiceProvider's WaitingListService Adds New Item to WaitingList

```
<iq type='set'
    from='waitlist.service-provider.com'
    to='waitlist.interop-partner.com'
    id='waitinglist2'>
  <query xmlns='http://jabber.org/protocol/waitinglist'>
    <item>
      <uri scheme='tel'>contact-number</uri>
    </item>
    <nick xmlns='http://jabber.org/protocol/nick'>Ishmael</nick>
  </query>
</iq>
```

If an InteropPartner knows a contact's nickname when it returns results to the WaitingList-Service it SHOULD include the nickname:

Listing 12: InteropPartner's WaitingListService Pushes Contact's JID to ServiceProvider's Waiting-ListService

```
<iq type='set'
    from='waitlist.interop-partner.com'
    to='waitlist.service-provider.com'
    id='jidpush1'>
  <query xmlns='http://jabber.org/protocol/waitinglist'>
    <item id='34567' jid='user@domain'>
      <uri scheme='tel'>contact-number</uri>
      <nick xmlns='http://jabber.org/protocol/nick'>Starbuck</nick>
    </item>
  </query>
</iq>
```

Finally, if the user's waiting list service knows the contact's nickname when it sends a notification to the user, it SHOULD include the nickname:

Listing 13: WaitingListService Pushes Contact's JID to IM User

```
<message
    from='waitlist.mody-dick.lit'
    to='narrator@moby-dick.lit'>
  <body>This message contains a WaitingList item.</body>
  <waitlist xmlns='http://jabber.org/protocol/waitinglist'>
    <item id='34567' jid='starbuck@moby-dick.lit'>
      <uri scheme='tel'>+45-555-1212</uri>
      <nick xmlns='http://jabber.org/protocol/nick'>Starbuck</nick>
    </item>
  </waitlist>
</message>
```

4.5 Nickname Management

In order for a user to modify his or her nickname and notify contacts of that change, it is RECOMMENDED for clients to use Personal Eventing Protocol [12] (a.k.a. PEP).

Listing 14: User Publishes Updated Nickname to PEP Node

```
<iq from='narrator@moby-dick.lit/pda'
    type='set'
    id='pub1'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='http://jabber.org/protocol/nick'>
      <item>
        <nick xmlns='http://jabber.org/protocol/nick'>CallMeIshmael</nick>
      </item>
    </publish>
  </pubsub>
</iq>
```

Listing 15: PEP Node Generates Notifications

```
<message from='narrator@moby-dick.lit'
         to='starbuck@moby-dick.lit'
         type='headline'
         id='foo'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='http://jabber.org/protocol/nick'>
      <item>
        <nick xmlns='http://jabber.org/protocol/nick'>CallMeIshmael</nick>
      </item>
    </items>
```

---

[12]XEP-0163: Personal Eventing Protocol <http://xmpp.org/extensions/xep-0163.html>.

```
    </event>
    <addresses xmlns='http://jabber.org/protocol/address'>
      <address type='replyto' jid='narrator@moby-dick.lit/pda'/>
    </addresses>
</message>
.
.
.
```

If a XEP-0163-compliant personal eventing service is not available, a client SHOULD use a standalone Publish-Subscribe [13] service.

Listing 16: User Publishes Updated Nickname to PubSub Node

```
<iq from='narrator@moby-dick.lit/pda'
    to='pubsub.mody-dick.lit'
    type='set'
    id='pub2'>
  <pubsub xmlns='http://jabber.org/protocol/pubsub'>
    <publish node='841f3c8955c4c41a0cf99620d78a33b996659ded'>
      <item>
        <nick xmlns='http://jabber.org/protocol/nick'>CallMeIshmael</
            nick>
      </item>
    </publish>
  </pubsub>
</iq>
```

Listing 17: PubSub Node Generates Notifications

```
<message from='pubsub.mody-dick.lit'
         to='starbuck@moby-dick.lit'
         type='headline'
         id='foo'>
  <event xmlns='http://jabber.org/protocol/pubsub#event'>
    <items node='841f3c8955c4c41a0cf99620d78a33b996659ded'>
      <item>
        <nick xmlns='http://jabber.org/protocol/nick'>CallMeIshmael</
            nick>
      </item>
    </items>
  </event>
  <addresses xmlns='http://jabber.org/protocol/address'>
    <address type='replyto' jid='narrator@moby-dick.lit/pda'/>
  </addresses>
</message>
.
.
```

---

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

```
.
```

If a client does not support XEP-0060 or the subset thereof specified in XEP-0163, it MAY send one <message/> stanza to each of its contacts, containing the updated nickname (note: the client SHOULD send the messages in a staggered fashion in order to avoid server-enforced rate limiting, commonly known as "karma").

Listing 18: Nickname Change Notification via Message

```
<message from='narrator@moby-dick.lit/pda' to='starbuck@moby-dick.lit'
    >
  <nick xmlns='http://jabber.org/protocol/nick'>CallMeIshmael</nick>
</message>
.
.
.
```

5 Implementation Notes

An IM client MAY use the user's own nickname as all or part of the "display name" shown to the user of that client (e.g., as the sending name in one-to-one chats and groupchats). For example, if the user whose JID is narrator@moby-dick.lit asserts that his nickname is "Ishmael", that user's client may show "Ishmael" as all or part of the user's display name. How the client shall store the display name is out of scope for this document; possible mechanisms include the user's local vCard, an organizational LDAP directory, Private XML Storage [14], or XEP-0154.

6 Security Considerations

A nickname is a memorable, friendly name asserted by a user. There is no guarantee that any given nickname will be unique even within a particulat community (such as an enterprise or university), let alone across the Internet through federation of communities. Clients SHOULD warn users that nicknames asserted by contacts are not unique and that nickname collisions are possible. Clients also MUST NOT depend on nicknames to validate the identity of contacts; instead, nicknames SHOULD be used in conjunction with JIDs (which are globally unique) and user-assigned handles (which are private and unique) as described in XEP-0165 in order to provide a three-pronged approach to identity validation, preferably in combination with X.509 certificates.

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[14]XEP-0049: Private XML Storage <http://xmpp.org/extensions/xep-0049.html>.

7 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA) [15].

8 XMPP Registrar Considerations

8.1 Protocol Namespaces

The XMPP Registrar [16] includes 'http://jabber.org/protocol/nick' in its registry of protocol namespaces (see <http://xmpp.org/registrar/namespaces.html>).

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

  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      XEP-0172: http://www.xmpp.org/extensions/xep-0172.html
    </xs:documentation>
  </xs:annotation>

  <xs:element name='nick' type='xs:string'/>

</xs:schema>
```

10 Acknowledgements

Thanks to Ian Paterson for his feedback.
Unbeknownst to the authors of this document, work on user nicknames was previously done

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[15]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/>.

[16]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 <http://xmpp.org/registrar/>.

by Richard Dobson.