



# XMPP

## XEP-0172: User Nickname

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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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## 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 were not specified in [RFC 3921](#)<sup>1</sup> or [RFC 6121](#)<sup>2</sup>). 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 \(XEP-0165\)](#)<sup>3</sup>).

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.

Name	Definition
Jabber ID (JID)	A global and unique XMPP identifier registered to a particular user, of the form <code>&lt;localpart@domain.tld&gt;</code> ; 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.

---

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

<sup>2</sup>RFC 6121: Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence <http://tools.ietf.org/html/rfc6121>.

<sup>3</sup>XEP-0165: Best Practices to Prevent JID Mimicking <https://xmpp.org/extensions/xep-0165.html>.

Name	Definition
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 < <a href="http://tools.ietf.org/html/rfc2821">http://tools.ietf.org/html/rfc2821</a> >.) and SIP (see RFC 3261 RFC 3261: Session Initiation Protocol (SIP) < <a href="http://tools.ietf.org/html/rfc3261">http://tools.ietf.org/html/rfc3261</a> >.).
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" was described as an "alias"; RFC 6121; was 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 \(XEP-0054\)](#) <sup>4</sup>.
- The "nickname" field specified in [User Profile \(XEP-0154\)](#) <sup>5</sup>.
- The "nickname" field specified in [In-Band Registration \(XEP-0077\)](#) <sup>6</sup>.
- The "nick" field specified in [Friend of a Friend \(FOAF\)](#) <sup>7</sup>.
- The "Alias" field specified in the Extensible Name and Address Language <sup>8</sup> developed by OASIS <sup>9</sup>.

<sup>4</sup>XEP-0054: vcard-temp <<https://xmpp.org/extensions/xep-0054.html>>.

<sup>5</sup>XEP-0154: User Profile <<https://xmpp.org/extensions/xep-0154.html>>.

<sup>6</sup>XEP-0077: In-Band Registration <<https://xmpp.org/extensions/xep-0077.html>>.

<sup>7</sup>Friend of a Friend (FOAF) <<http://xmlns.com/foaf/0.1/>>.

<sup>8</sup>See <<http://xml.coverpages.org/xnal.html>>.

<sup>9</sup>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/>>.

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 6121, 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 \(XEP-0054\)](#)<sup>10</sup> 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>
```

---

<sup>10</sup>XEP-0054: vcard-temp <<https://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 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 \(XEP-0163\)](#)<sup>11</sup> (a.k.a. PEP).

Listing 5: 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 6: PEP Node Generates Notifications

```
<message from='narrator@moby-dick.lit'
  to='starbuck@moby-dick.lit'
  type='headline'
  id='foo'>
```

<sup>11</sup>XEP-0163: Personal Eventing Protocol <<https://xmpp.org/extensions/xep-0163.html>>.

```

<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>
</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 (XEP-0060)<sup>12</sup> service.

Listing 7: User Publishes Updated Nickname to PubSub Node

```

<iq from='narrator@moby-dick.lit/pda'
  to='pubsub.moby-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 8: PubSub Node Generates Notifications

```

<message from='pubsub.moby-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>
</message>

```

<sup>12</sup>XEP-0060: Publish-Subscribe <<https://xmpp.org/extensions/xep-0060.html>>.



```

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

```

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 9: 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 \(XEP-0049\)](#)<sup>13</sup>, or XEP-0154.

## 6 Former Usages

Earlier versions of this document described how to include the User Nickname extension in presence stanzas and invitations sent in relation to [Multi-User Chat \(XEP-0045\)](#)<sup>14</sup> rooms. Based on deployment experience, that usage is now discouraged, since it is confusing to display multiple nicknames to an end user and inclusion of user-generated nicknames can override or work around local service policies for "nick lockdown" in chatrooms.

<sup>13</sup>XEP-0049: Private XML Storage <<https://xmpp.org/extensions/xep-0049.html>>.

<sup>14</sup>XEP-0045: Multi-User Chat <<https://xmpp.org/extensions/xep-0045.html>>.

Earlier versions also described usage in relation to the [Waiting Lists \(XEP-0130\)](#)<sup>15</sup> protocol. Because that protocol is now obsolete, documentation of such usage has been removed from this specification.

## 7 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 particular 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.

## 8 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)<sup>16</sup>.

## 9 XMPP Registrar Considerations

### 9.1 Protocol Namespaces

The [XMPP Registrar](#)<sup>17</sup> includes 'http://jabber.org/protocol/nick' in its registry of protocol namespaces (see <https://xmpp.org/registrar/namespaces.html>).

## 10 XML Schema

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

---

<sup>15</sup>XEP-0130: Waiting Lists <https://xmpp.org/extensions/xep-0130.html>.

<sup>16</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/>.

<sup>17</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: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>
```

## 11 Acknowledgements

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