



XMPP

XEP-0267: Server Buddies

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This specification defines a convention for presence subscriptions between XMPP servers.

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1 Description

In XMPP, rosters and presence subscriptions have been used to date only among IM users (see [XMPP IM](#)¹). However, nothing prevents the application of these concepts to other XMPP entities, such as components and servers. Given that a presence subscription typically indicates some level of trust in a peer, server deployments can use the sharing of XMPP presence information as a way to indicate that a given server has a trust relationship with a peer server (informally, we can say that the two servers consider each other "buddies"). The server might then share certain kinds of additional information only with its trusted peers, for example [Incident Reporting \(XEP-0268\)](#)² and [Entity Reputation \(XEP-0275\)](#)³. The server buddy relationship can also be leveraged for additional functionality, such as [Service Directories \(XEP-0309\)](#)⁴

To establish such a trust relationship with a peer, a server sends a presence subscription request to the peer, just as is done between XMPP users.

Listing 1: Service sends subscription request to peer

```
<presence from='montague.lit'
         to='capulet.lit'
         type='subscribe' />
```

A server MUST NOT send such a presence subscription request unless explicitly requested to do so by a server administrator (see below).

Upon receiving such a presence subscription request, the XMPP server software running at the peer shall either prompt the server administrator to approve the request or (if explicitly configured to accept subscriptions requests) automatically approve it. (A future version of this specification might define an approval method based on [Data Forms \(XEP-0004\)](#)⁵.)

If the request is approved, the peer server then informs the originating server that the request has been approved.

Listing 2: Peer sends approval to server

```
<presence from='capulet.lit'
         to='montague.lit'
         type='subscribed' />
```

The peer SHOULD also send a subscription request to the originating server.

Listing 3: Peer sends subscription request to server

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

² XEP-0268: Incident Reporting <<https://xmpp.org/extensions/xep-0268.html>>.

³ XEP-0275: Entity Reputation <<https://xmpp.org/extensions/xep-0275.html>>.

⁴ XEP-0309: Service Directories <<https://xmpp.org/extensions/xep-0309.html>>.

⁵ XEP-0004: Data Forms <<https://xmpp.org/extensions/xep-0004.html>>.

```
<presence from='capulet.lit'
          to='montague.lit'
          type='subscribe' />
```

The originating server would then approve that subscription request.

Listing 4: Service sends approval to peer

```
<presence from='montague.lit'
          to='capulet.lit'
          type='subscribed' />
```

If an XMPP server implementation supports this usage of presence subscriptions, it **MUST** keep a list of approved entities, which we denote a "server roster". The implementation **MAY** use that roster for access control purposes defined in other specifications.

2 Ad-Hoc Command

This section defines an [Ad-Hoc Commands \(XEP-0050\)](#)⁶ node scoped by the [Field Standardization for Data Forms \(XEP-0068\)](#)⁷ FORM_TYPE specified in [Service Administration \(XEP-0133\)](#)⁸. Upon advancement of this specification to Draft, this section ought to be moved to XEP-0133. The command node for this use case **SHOULD** be "http://jabber.org/protocol/admin#server-buddy".

A sample protocol flow for this use case is shown below.

Listing 5: Admin Subscribes Service to Peer Server

```
<iq from='bard@shakespeare.lit/globe'
    id='nrw51vs8'
    to='shakespeare.lit'
    type='set'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
          action='execute'
          node='http://jabber.org/protocol/admin#server-buddy' />
</iq>
```

Unless an error occurs (see the "Error Handling" section of XEP-0133), the service **SHOULD** return the appropriate form.

Listing 6: Service Returns Server Buddy Form to Admin

⁶XEP-0050: Ad-Hoc Commands <<https://xmpp.org/extensions/xep-0050.html>>.

⁷XEP-0068: Field Data Standardization for Data Forms <<https://xmpp.org/extensions/xep-0068.html>>.

⁸XEP-0133: Service Administration <<https://xmpp.org/extensions/xep-0133.html>>.

```

<iq from='shakespeare.lit'
  id='nrw51vs8'
  to='bard@shakespeare.lit/globe'
  type='result'
  xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
    node='http://jabber.org/protocol/admin#server-buddy'
    sessionId='server-buddy:20040408T0337Z'
    status='executing'>
    <x xmlns='jabber:x:data' type='form'>
      <title>Subscribing to a Peer Server</title>
      <instructions>Fill out this form to subscribe your server to a
        peer server.</instructions>
      <field type='hidden' var='FORM_TYPE'>
        <value>http://jabber.org/protocol/admin</value>
      </field>
      <field label='The_domain_name_of_the_peer_server'
        type='jid-single'
        var='peerjid'>
        <required/>
      </field>
    </x>
  </command>
</iq>

```

Note: In virtual hosting environments, the server can determine the domain name from which to send the presence subscription based on the 'to' address of the <iq/> stanza.

Listing 7: Admin Submits Server Buddy Form to Service

```

<iq from='bard@shakespeare.lit/globe'
  id='lk2vs82g'
  to='shakespeare.lit'
  type='set'
  xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
    node='http://jabber.org/protocol/admin#server-buddy'
    sessionId='server-buddy:20040408T0337Z'>
    <x xmlns='jabber:x:data' type='submit'>
      <field type='hidden' var='FORM_TYPE'>
        <value>http://jabber.org/protocol/admin</value>
      </field>
      <field var='peerjid'>
        <value>marlowe.lit</value>
      </field>
    </x>
  </command>
</iq>

```

Listing 8: Service Informs Admin of Completion

```
<iq from='shakespeare.lit'
  id='lk2vs82g'
  to='bard@shakespeare.lit/globe'
  type='result'
  xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
    node='http://jabber.org/protocol/admin#server-buddy'
    sessionid='server-buddy:20040408T0337Z'
    status='completed' />
</iq>
```

Notification of completion MAY include the processed data in a data form of type "result".

3 Determining Support

To advertise its support for the server buddy feature, when replying to service discovery information ("disco#info") requests a server MUST return a URN of "urn:xmpp:server-presence".

Listing 9: Service discovery information request

```
<iq from='jabber.org'
  id='uw72g176'
  to='xmpp.net'
  type='get'>
  <query xmlns='http://jabber.org/protocol/disco#info' />
</iq>
```

Listing 10: Service discovery information response

```
<iq from='xmpp.net'
  id='uw72g176'
  to='jabber.org'
  type='result'>
  <query xmlns='http://jabber.org/protocol/disco#info'>
    <feature var='urn:xmpp:server-presence' />
  </query>
</iq>
```

4 Security Considerations

Because server "buddies" might be granted greater privileges than unknown peers, care should be taken in sending or approving presence subscription requests. In particular, a server MUST NOT send a presence subscription request unless explicitly requested to do so

by a server administrator.

5 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)⁹.

6 XMPP Registrar Considerations

6.1 Service Discovery Features

```
<var>
  <name>urn:xmpp:server-presence</name>
  <desc>Support for subscriptions to server presence</desc>
  <doc>XEP-0267</doc>
</var>
```

6.2 Field Standardization

[Field Standardization for Data Forms \(XEP-0068\)](#)¹⁰ defines a process for standardizing the fields used within Data Forms scoped by a particular namespace. This registration adds two more reserved fields to the 'http://jabber.org/protocol/admin' namespace defined in XEP-0133.

```
<form_type>
  <name>http://jabber.org/protocol/admin</name>
  <field var='peerjid'
    type='jid-single'
    label='The_Jabber_ID_of_a_peer_server' />
</form_type>
```

7 Acknowledgements

Thanks to Kim Alvefur, Waqas Hussain, and Tobias Markmann for their feedback.

⁹The 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/>.

¹⁰XEP-0068: Field Data Standardization for Data Forms <<https://xmpp.org/extensions/xep-0068.html>>.