



XMPP

XEP-0083: Nested Roster Groups

Rachel Blackman

<mailto:rcb@ceruleanstudios.com>

<xmpp:sparks@jabber.org>

2004-10-11

Version 1.0

Status	Type	Short Name
Active	Informational	nestedgroups

This document defines an XMPP protocol extension that enables nested sub-groups to exist within the Jabber roster, while retaining backwards compatibility and ensuring that the roster remains usable by all clients.

Legal

Copyright

This XMPP Extension Protocol is copyright © 1999 – 2018 by the [XMPP Standards Foundation](#) (XSF).

Permissions

Permission is hereby granted, free of charge, to any person obtaining a copy of this specification (the "Specification"), to make use of the Specification without restriction, including without limitation the rights to implement the Specification in a software program, deploy the Specification in a network service, and copy, modify, merge, publish, translate, distribute, sublicense, or sell copies of the Specification, and to permit persons to whom the Specification is furnished to do so, subject to the condition that the foregoing copyright notice and this permission notice shall be included in all copies or substantial portions of the Specification. Unless separate permission is granted, modified works that are redistributed shall not contain misleading information regarding the authors, title, number, or publisher of the Specification, and shall not claim endorsement of the modified works by the authors, any organization or project to which the authors belong, or the XMPP Standards Foundation.

Warranty

NOTE WELL: This Specification is provided on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE.

Liability

In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall the XMPP Standards Foundation or any author of this Specification be liable for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising from, out of, or in connection with the Specification or the implementation, deployment, or other use of the Specification (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if the XMPP Standards Foundation or such author has been advised of the possibility of such damages.

Conformance

This XMPP Extension Protocol has been contributed in full conformance with the XSF's Intellectual Property Rights Policy (a copy of which can be found at <https://xmpp.org/about/xsf/ipr-policy>) or obtained by writing to XMPP Standards Foundation, P.O. Box 787, Parker, CO 80134 USA).

Contents

1	Introduction	1
2	roster:delimiter Namespace	1
3	Use Cases	1
3.1	Querying for the delimiter	1
3.2	Retrieving the Roster	2
4	Security Considerations	3
5	IANA Considerations	3
6	XMPP Registrar Considerations	4
6.1	Protocol Namespaces	4
7	Schema	4

1 Introduction

In many modern instant messaging clients, client authors implement a way to nest contact groups within other contact groups. Usually this is implemented on the client side, since many instant messaging networks do not support nesting contact groups in this manner. The limitation of this system is that if the user changes from one client to another, or even a second installation of the same client, the user loses all of his or her sub-group information. This document aims to solve that problem within Jabber, by providing for a way to store sub-groups on the Jabber roster without breaking existing clients.

2 roster:delimiter Namespace

Jabber already provides a useful method for storing client data on the server using [Private XML Storage \(XEP-0049\)](#)¹. All we need to do is create a new roster element and a namespace to store the delimiter for nested groups, roster:delimiter. This element **MUST** contain XML character data that defines a string to be used as a delimiter in the roster groups.²

A single-character roster delimiter (e.g., "/") would make client implementation easier, but be more limiting to the end-user in terms of choices for naming roster groups, so a string is ideal. Therefore, the delimiter **SHOULD** contain multiple characters in order to avoid inconveniencing the user, but single-character delimiters **MUST** be honored by the client. The exception is if the delimiter is a single alphanumeric character (a-z, A-Z, 0-9); in this case compliant clients **MUST** treat the situation as if nesting were disabled, to avoid malicious use of this element by setting 'e' or 'm' or some other common single character as a delimiter.

A compliant client **SHOULD** ask for the nested delimiter before requesting the user's roster, in order to know whether or not to parse the roster 'group' fields accordingly. If there is no delimiter stored, a client **MAY** set a delimiter but **MUST** either prompt the user for a delimiter, or use a user-configurable default.

3 Use Cases

Use cases for this extension are straightforward, and are shown below as examples.

3.1 Querying for the delimiter

All compliant clients **SHOULD** query for an existing delimiter at login.

¹XEP-0049: Private XML Storage <<https://xmpp.org/extensions/xep-0049.html>>.

²If the element does not contain XML character data, a compliant client **SHOULD** assume that nested groups are disabled for the user's account.

Listing 1: Querying for the Delimiter

```
CLIENT:
<iq type='get'
  id='1'>
  <query xmlns='jabber:iq:private'>
    <roster xmlns='roster:delimiter' />
  </query>
</iq>

SERVER:
<iq type='result'
  id='1'
  from='bill@shakespeare.lit/Globe'
  to='bill@shakespeare.lit/Globe'>
  <query xmlns='jabber:iq:private'>
    <roster xmlns='roster:delimiter'>::</roster>
  </query>
</iq>
```

3.2 Retrieving the Roster

Now that the client has a delimiter, we can retrieve and parse the roster properly.

Listing 2: Retrieving a Roster with Nested Groups

```
CLIENT:
<iq type='get'
  id='2'>
  <query xmlns='jabber:iq:roster' />
</iq>

SERVER:
<iq type='result'
  to='bill@shakespeare.lit/Globe'
  id='2'>
  <query xmlns='jabber:iq:roster'>
    <item jid='bottom@athens.gr' subscription='both'>
      <group>Midsummer::Actors</group>
    </item>
    <item jid='quince@athens.gr' subscription='both'>
      <group>Midsummer::Actors</group>
    </item>
    <item jid='snug@athens.gr' subscription='both'>
      <group>Midsummer::Actors</group>
    </item>
    <item jid='theseus@athens.gr' subscription='both'>
      <group>Midsummer::Royalty</group>
    </item>
```

```
<item jid='hippolyta@athens.gr' subscription='both'>
  <group>Midsummer::Royalty</group>
</item>
<item jid='robin@faeries.underhill.org' subscription='both'>
  <group>Midsummer</group>
</item>
<item jid='hamlet@denmark.net' subscription='both'>
  <group>Hamlet</group>
</item>
<item jid='gertrude@denmark.net' subscription='both'>
  <group>Hamlet</group>
</item>
</query>
</iq>
```

Bottom, Quince and Snug should be grouped together in a group 'Actors' underneath the group 'Midsummer'. Theseus and Hippolyta should be grouped together in a group 'Royalty' under 'Midsummer'. Robin Goodfellow, meanwhile, being in a class unto himself, is a plain contact under the 'Midsummer' group rather than in an actual sub-group. The group Hamlet, containing only one melancholy prince and his mother, contains no sub-groups at all. As should be apparent, a client which does not support the delimiter will instead create a separate group -- such as 'Midsummer::Actors' -- and thus will still have each set of contacts grouped with the other appropriate contacts.

4 Security Considerations

There are no security features or concerns related to this proposal above and beyond those specified for roster management in [XMPP IM](#)³ and for private XML storage in XEP-0049.

5 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)⁴.

³RFC 6121: Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence <<http://tools.ietf.org/html/rfc6121>>.

⁴The 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/>>.

6 XMPP Registrar Considerations

6.1 Protocol Namespaces

The [XMPP Registrar](#)⁵ includes 'roster:delimiter' in its registry of protocol namespaces.

7 Schema

```
<?xml version='1.0' encoding='UTF-8'?>
<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='roster:delimiter'
  xmlns='roster:delimiter'>
  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      XEP-0083: http://www.xmpp.org/extensions/xep-0083.html
    </xs:documentation>
  </xs:annotation>
  <xs:element name='roster' type='xs:string' />
</xs:schema>
```

⁵The 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/>.