



# XMPP

## XEP-0338: Jingle Grouping Framework

Philipp Hancke

<mailto:fippo@andyet.com>

<xmpp:fippo@goodadvice.pages.de>

2017-09-11

Version 0.2

Status	Type	Short Name
Deferred	Standards Track	NOT_YET_ASSIGNED

This specification provides an XML mapping for translating the RFC 5888 SDP Grouping Framework to Jingle

# 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

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Mapping to Session Description Protocol</b>	<b>1</b>
<b>3</b>	<b>Determining Support</b>	<b>2</b>
<b>4</b>	<b>Acknowledgements</b>	<b>3</b>
<b>5</b>	<b>Security Considerations</b>	<b>3</b>
<b>6</b>	<b>IANA Considerations</b>	<b>3</b>
<b>7</b>	<b>XMPP Registrar Considerations</b>	<b>3</b>
	7.1 Protocol Namespaces . . . . .	3
	7.2 Protocol Versioning . . . . .	4
<b>8</b>	<b>XML Schema</b>	<b>4</b>

## 1 Introduction

RFC 5888<sup>1</sup> defines a framework to group SDP 'm' lines for different purposes. A mapping to Jingle as an extension to Jingle (XEP-0166)<sup>2</sup> is defined in this document.

It is anticipated that the primary use of this is with the draft-ietf-mmusic-sdp-bundle-negotiation<sup>3</sup> framework used in WebRTC.

## 2 Mapping to Session Description Protocol

The SDP format defined in RFC 5888 is shown below.

```
a=group:semantics identification-tag
```

An example follows.

```
a=group:LS voice webcam
```

This SDP attribute is translated to Jingle as a <group/> element qualified by the 'urn:xmpp:jingle:apps:grouping:0' namespace, as shown below. The semantics is mapped to a 'semantics' attribute. The identification-tags are mapped to content elements whose name attribute is set to the identification-tag.

```
<group xmlns='urn:xmpp:jingle:apps:grouping:0' semantics='semantics'>
  <content name='identification-tag_1' />
  <content name='identification-tag_2' />
</group>
```

An example follows.

```
<group xmlns='urn:xmpp:jingle:apps:grouping:0' semantics='LS'>
  <content name='voice' />
  <content name='webcam' />
</group>
```

The <group/> element is included as child of the <jingle/> element.

```
<iq from='romeo@montague.lit/orchard'
  id='rg6s5134'
```

---

<sup>1</sup>RFC 5888: The Session Description Protocol (SDP) Grouping Framework <<http://tools.ietf.org/html/rfc5888>>.

<sup>2</sup>XEP-0166: Jingle <<https://xmpp.org/extensions/xep-0166.html>>.

<sup>3</sup>Negotiating Media Multiplexing Using the Session Description Protocol (SDP) <<https://datatracker.ietf.org/doc/draft-ietf-mmusic-sdp-bundle-negotiation/>>. Work in progress.

```

    to='juliet@capulet.lit/balcony'
    type='set'>
<jingle xmlns='urn:xmpp:jingle:1'
    action='session-initiate'
    initiator='romeo@montague.lit/orchard'
    sid='a73sjjvkl37jfea'>
  <group xmlns='urn:xmpp:jingle:apps:grouping:0' semantics='BUNDLE'>
    <content name='voice' />
    <content name='webcam' />
  </group>
  <content creator='initiator' name='voice'>
    [ ... ]
  </content>
  <content creator='initiator' name='webcam'>
    [ ... ]
  </content>
</jingle>
</iq>

```

Note: the identification-tags correspond to the <content/> 'name' attributes. These in turn map to the 'mid' attribute in SDP.

### 3 Determining Support

If an entity supports the grouping framework described in RFC 5888, it MUST advertise that fact in its responses to [Service Discovery \(XEP-0030\)](#)<sup>4</sup> information ("disco#info") requests by returning a feature of 'urn:ietf:rfc:5888':

Listing 1: 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 2: 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:jingle:1' />
  </query>
</iq>

```

<sup>4</sup>XEP-0030: Service Discovery <<https://xmpp.org/extensions/xep-0030.html>>.

```
<feature var='urn:ietf:rfc:5888' />
</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 \(XEP-0115\)](#)<sup>5</sup>. However, if an application has not received entity capabilities information from an entity, it SHOULD use explicit service discovery instead.

## 4 Acknowledgements

Thanks to Emil Ivov and Lance Stout for their feedback.  
The XML format for this specification originates from libjingle<sup>6</sup>.

## 5 Security Considerations

This document introduces no additional security considerations above and beyond those defined in the documents on which it depends.

## 6 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)<sup>7</sup>.

## 7 XMPP Registrar Considerations

### 7.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:jingle:apps:grouping:0

---

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

<sup>6</sup>libjingle is now part of the WebRTC Native Code Package available from [webrtc.org](http://webrtc.org).

<sup>7</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/>>.

The [XMPP Registrar](#)<sup>8</sup> includes the foregoing namespace to the registry located at <https://xmpp.org/registrar/namespaces.html>, as described in Section 4 of [XMPP Registrar Function \(XEP-0053\)](#)<sup>9</sup>.

## 7.2 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.

## 8 XML Schema

TODO

---

<sup>8</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/>.

<sup>9</sup>XEP-0053: XMPP Registrar Function <https://xmpp.org/extensions/xep-0053.html>.