



XMPP

XEP-0339: Source-Specific Media Attributes in Jingle

Philipp Hancke

<mailto:fippo@andyet.com>

<xmpp:fippo@goodadvice.pages.de>

2015-11-09

Version 0.2

Status	Type	Short Name
Experimental	Standards Track	NOT_YET_ASSIGNED

This specification provides an XML mapping for translating the RFC 5766 Source-Specific Media Attributes from SDP to Jingle

Legal

Copyright

This XMPP Extension Protocol is copyright © 1999 – 2017 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	Mapping to Session Description Protocol	1
2.1	The ssrc attribute	1
2.2	The ssrc-group attribute	2
3	Example	2
4	Determining Support	3
5	Security Considerations	4
6	IANA Considerations	4
7	XMPP Registrar Considerations	4
7.1	Protocol Namespaces	4
7.2	Protocol Versioning	4
8	XML Schema	5

1 Introduction

RFC 5576¹ provides a mechanism to describe attributes of individual media sources (identified by their synchronization source) within a media stream. A mapping to Jingle as an extension to Jingle RTP Sessions (XEP-0167)² is defined in this document.

2 Mapping to Session Description Protocol

2.1 The ssrc attribute

The SDP format defined in RFC 5576 is shown below.

```
a=ssrc:<ssrc-id> <attribute>
a=ssrc:<ssrc-id> <attribute>:<value>
```

This maps to Jingle as a <source/> element qualified by the 'urn:xmpp:jingle:apps:rtp:ssma:0' namespace. Since 'ssrc' is a media attribute in SDP, the <source/> element is included as child of the Jingle <description/> element.

```
<source ssrc='ssrc-id' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
  <parameter name='attribute' />
  <parameter name='attribute' value='value' />
</source>
```

Each ssrc-id maps to a <source/> element whose 'ssrc' attribute is set to the ssrc-id. The associated attributes map to <parameter/> children with 'name' and 'value' attributes. If there is no value in the SDP, the value parameter shall be omitted.

An example follows:

```
a=ssrc:1656081975 cname:Yv/wvbCdsDW2Prgd
a=ssrc:1656081975 msid:MLTJKIHilGn71fNQoszkQ4j1PTuS5vJyKVIv
  MLTJKIHilGn71fNQoszkQ4j1PTuS5vJyKVIva0
```

```
<source ssrc='1656081975' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
  <parameter name='cname' value='Yv/wvbCdsDW2Prgd' />
  <parameter name='msid' value='MLTJKIHilGn71fNQoszkQ4j1PTuS5vJyKVIv
    MLTJKIHilGn71fNQoszkQ4j1PTuS5vJyKVIva0' />
</source>
```

¹RFC 5576: Source-Specific Media Attributes in the Session Description Protocol (SDP) <<http://tools.ietf.org/html/rfc5576>>.

²XEP-0167: Jingle RTP Sessions <<https://xmpp.org/extensions/xep-0167.html>>.

2.2 The ssrc-group attribute

The SDP format defined in RFC 5576 is shown below.

```
a=ssrc-group:<semantics> <ssrc-id> ...
```

This maps to Jingle as a `<ssrc-group/>` element qualified by the `'urn:xmpp:jingle:apps:rtp:ssma:0'` namespace. Like the `<source/>` element, this is included as child of the Jingle `<description/>` element. The SDP 'semantics' parameter is mapped to the semantics attribute (for consistency with [Jingle Grouping Framework \(XEP-0338\)](#)³) and the list of ssrc-ids is mapped to `<source/>` elements whose 'ssrc' attribute is set to the ssrc-id.

```
<ssrc-group xmlns='urn:xmpp:jingle:apps:rtp:ssma:0' semantics='
  semantics'>
  <source ssrc='ssrc-id' />
  [...]
</ssrc-group>
```

3 Example

A minimal example follows:

```
m=video 1 RTP/SAVPF 100 116 117
a=rtpmap:100 VP8/90000
a=ssrc-group:FID 2301230316 386328120
a=ssrc:2301230316 cname:T5qvrIZj42v//eYQ
a=ssrc:386328120 cname:uEYgNtStZyTF74sM
a=ssrc-group:FID 3139499595 2613715171
a=ssrc:3139499595 cname:re8jhxkly9bxzuxr
a=ssrc:2613715171 cname:f83avsiw6n1m7vi
```

This is mapped to Jingle as follows:

```
<content creator='initiator' name='webcam'>
  <description xmlns='urn:xmpp:jingle:apps:rtp:1' media='video'>
    <payload-type id='100' name='VP8' clockrate='90000' />
    <ssrc-group xmlns='urn:xmpp:jingle:apps:rtp:ssma:0' semantics='FID
      '>
      <source ssrc='2301230316' />
      <source ssrc='386328120' />
    </ssrc-group>
    <ssrc-group xmlns='urn:xmpp:jingle:apps:rtp:ssma:0' semantics='FID
      '>
```

³XEP-0338: Jingle Grouping Framework <<https://xmpp.org/extensions/xep-0338.html>>.

```

    <source ssrc='3139499595' />
    <source ssrc='2613715171' />
  </ssrc-group>
  <source ssrc='2301230316' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
    <parameter name='cname' value='T5qvrIZj42v//eYQ' />
  </source>
  <source ssrc='386328120' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
    <parameter name='cname' value='uEYgNtStZyTF74sM' />
  </source>
  <source ssrc='3139499595' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
    <parameter name='cname' value='re8jhxkly9bxzuxr' />
  </source>
  <source ssrc='2613715171' xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'>
    <parameter name='cname' value='f83avsiw6n1m7vi' />
  </source>
</description>
</content>

```

4 Determining Support

If an entity supports source specific media attributes as described in RFC 5576, it MUST advertise that fact in its responses to [Service Discovery \(XEP-0030\)](#)⁴ information ("disco#info") requests by returning a feature of 'urn:ietf:rfc:5576':

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' />
    <feature var='urn:ietf:rfc:5576' />
  </query>
</iq>

```

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

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 \(XEP-0115\)](#)⁵. However, if an application has not received entity capabilities information from an entity, it SHOULD use explicit service discovery instead.

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 \(IANA\)](#)⁶.

7 XMPP Registrar Considerations

7.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:jingle:apps:rtp:ssma:0

The [XMPP Registrar](#)⁷ includes the foregoing namespace to the registry located at <https://xmpp.org/registrar/namespaces.html>, as described in Section 4 of [XMPP Registrar Function \(XEP-0053\)](#)⁸.

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

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

⁶The 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/>.

⁷The 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/>.

⁸XEP-0053: XMPP Registrar Function <https://xmpp.org/extensions/xep-0053.html>.

XEP-0053.

8 XML Schema

TODO