



XMPP

XEP-0339: Source-Specific Media Attributes in Jingle

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

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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 xmlns='http://jabber.org/protocols/jingle' 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>
```

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

```

<ssrc-group xmlns='urn:xmpp:jingle:apps:rtp:ssma:0' semantics='FID
  '>
  <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='re8jhkly9bxzuxr' />
</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

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

<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:jingle:apps:rtp:ssma:0'
  xmlns='urn:xmpp:jingle:apps:rtp:ssma:0'
  elementFormDefault='qualified'>

  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      XEP-0339: http://www.xmpp.org/extensions/xep-0339.html
    </xs:documentation>
  </xs:annotation>

  <xs:element name='ssrc-group'>
    <xs:complexType>
      <xs:sequence>
        <xs:element ref='source'
          minOccurs='0'
          maxOccurs='unbounded' />
      </xs:sequence>
      <xs:attribute name='semantics' use='required'>
        <xs:simpleType>
          <xs:restriction base='xs:NCName'>
            <xs:enumeration value='LS' />
            <xs:enumeration value='FID' />
            <xs:enumeration value='SRF' />
            <xs:enumeration value='ANAT' />
            <xs:enumeration value='FEC' />
            <xs:enumeration value='DDP' />
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
    </xs:complexType>
  </xs:element>

  <xs:element name='source'>
    <xs:complexType>
      <xs:sequence>
        <xs:element ref='parameter'
          minOccurs='0'
          maxOccurs='unbounded' />
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```



```
        </xs:sequence>
        <xs:attribute name='ssrc' type='xs:unsignedInt' use='required' />
    </xs:complexType>
</xs:element>

<xs:element name='parameter'>
    <xs:complexType>
        <xs:attribute name='name' type='xs:string' use='required' />
        <xs:attribute name='value' type='xs:string' use='optional' />
    </xs:complexType>
</xs:element>

</xs:schema>
```