



# XMPP

## XEP-0264: Jingle Content Thumbnails

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This specification defines a way for a client to supply a preview image for Jingle content.

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## 1 Introduction

When offering a Jingle session, it can be helpful to provide a small preview of the offered content to help the session responder decide whether to accept or reject the session.

This is particularly useful for file transfer content (especially image files), but can also be used for things such as video (e.g. using a still frame from the stream as the preview thumbnail), and even audio by using a small image of album cover art.

## 2 Requirements

This documents defines a way to include a thumbnail image as an additional metadata in a Jingle content description.

## 3 Use Cases

When a client wishes to supply a thumbnail in a content offer, it can do so by including an extra `<thumbnail/>` element as shown in the following example:

Listing 1: Inclusion of a thumbnail in a Jingle file transfer offer

```
<iq from='romeo@montague.lit/orchard'
  id='nzu25s8'
  to='juliet@capulet.lit/balcony'
  type='set'>
  <jingle xmlns='urn:xmpp:jingle:0'
    action='session-initiate'
    initiator='romeo@montague.lit/orchard'
    sid='851ba2'>
    <content creator='initiator' name='a-file-offer'>
      <description xmlns='urn:xmpp:jingle:apps:file-transfer:4'
        senders='initiator'>
        <file>
          <media-type>image/jpeg</media>
          <name>image.jpg</name>
          <size>3032449</size>
          <hash xmlns='urn:xmpp:hashes:1' algo='sha-1'>552
            da749930852c69ae5d2141d3766b1</hash>
          <desc>This is a test. If this were a real file...</desc>
          <thumbnail xmlns='urn:xmpp:thumbs:1'
            uri='cid:sha1+
              ffd7c8d28e9c5e82afea41f97108c6b4@bob.xmpp.org
              ,
              media-type='image/png'
              width='128'
```

```

        height='96' />
    </file>
</description>
<transport .../>
</content>
</jingle>
</iq>

```

Thumbnails MAY be included for Jingle content other than file transfer. For example, with Jingle RTP video a thumbnail could be included to show who is calling (either by capturing a still frame from the input stream or by using an existing profile image):

Listing 2: Inclusion of a thumbnail in a Jingle RTP video session

```

<iq from='romeo@montague.lit/orchard'
  id='ih28sx61'
  to='juliet@capulet.lit/balcony'
  type='set'>
  <jingle xmlns='urn:xmpp:jingle:1'
    action='session-initiate'
    initiator='romeo@montague.lit/orchard'
    sid='a73sjjvkl37jfea'>
    <content creator='initiator' name='webcam'>
      <description xmlns='urn:xmpp:jingle:apps:rtp:1' media='video'>
        <payload-type id='98' name='theora' clockrate='90000'>
          <parameter name='height' value='600' />
          <parameter name='width' value='800' />
          <parameter name='delivery-method' value='inline' />
          <parameter name='configuration' value='somebase16string' />
          <parameter name='sampling' value='YCbCr-4:2:2' />
        </payload-type>
        <payload-type id='28' name='nv' clockrate='90000' />
        <payload-type id='25' name='CelB' clockrate='90000' />
        <payload-type id='32' name='MPV' clockrate='90000' />
        <bandwidth type='AS'>128</bandwidth>
        <thumbnail xmlns='urn:xmpp:thumbs:1'
          uri='cid:sha1+ffd7c8d28e9c5e82afea41f97108c6b4@bob.
            xmpp.org'
          media-type='image/png'
          width='128'
          height='96' />
      </description>
      <transport .../>
    </content>
  </jingle>
</iq>

```

Multiple <thumbnail/> elements MAY be included to provide thumbnails of different sizes, media types, or URIs.

If the provided URI has the scheme 'cid', then the thumbnail data MAY be requested using [Bits of Binary \(XEP-0231\)](#)<sup>1</sup>.

## 4 Definition of the thumbnail Element

The following attributes are defined for the <thumbnail/> element.

Attribute	Description	Inclusion
uri	A URI where the thumbnail data can be accessed (typically by using a URI scheme of 'cid:', 'https:', or 'http:'). If the URI scheme is 'cid:' then the identifier MUST refer to a bit of binary data as described in <a href="#">Bits of Binary (XEP-0231)</a> XEP-0231: Bits of Binary < <a href="https://xmpp.org/extensions/xep-0231.html">https://xmpp.org/extensions/xep-0231.html</a> >.	REQUIRED
media-type	The value of the 'media-type' attribute MUST match the syntax specified in RFC 2045 RFC 2045: Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies < <a href="http://tools.ietf.org/html/rfc2045">http://tools.ietf.org/html/rfc2045</a> >.. That is, the value MUST include a top-level media type, the "/" character, and a subtype; in addition, it MAY include one or more optional parameters. The "type/subtype" string SHOULD be registered in the IANA MIME Media Types Registry IANA registry of MIME media types < <a href="http://www.iana.org/assignments/media-types">http://www.iana.org/assignments/media-types</a> >., but MAY be an unregistered or yet-to-be-registered value.	RECOMMENDED
width	The intended display width of the thumbnail image. Used as a hint for the receiving client to prepare the appropriate UI, such as a dialog window.	OPTIONAL

<sup>1</sup>XEP-0231: Bits of Binary <<https://xmpp.org/extensions/xep-0231.html>>.

Attribute	Description	Inclusion
height	The intended display height of the thumbnail image. Used as a hint for the receiving client to prepare the appropriate UI, such as a dialog window.	OPTIONAL

## 5 Security Considerations

The inclusion of an image thumbnail may leak information about a transfer otherwise taking place on an e2e encrypted file transfer stream. A client MAY wish to not include a thumbnail. A client MUST NOT rely on the values specified for the width and height of a thumbnail to allocate a bitmap data buffer for the thumbnail, to prevent possible DoS attacks. Also a client SHOULD apply implementation-specific limits on the thumbnails, if using these values to prepare a UI element for the thumbnail image, e.g. with dimensions of 128x128 pixels, values exceeding these would then be truncated and the thumbnail image scaled down when received.

## 6 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)<sup>2</sup>.

## 7 XMPP Registrar Considerations

### 7.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:thumbs:1

The [XMPP Registrar](#)<sup>3</sup> includes this namespace in the registry located at [<https://xmpp.org/registrar/namespaces.html>](https://xmpp.org/registrar/namespaces.html), as described in Section 4 of [XMPP Registrar](#)

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<sup>2</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/>](http://www.iana.org/).

<sup>3</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/>](https://xmpp.org/registrar/).

Function (XEP-0053)<sup>4</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

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

<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:thumbs:1'
  xmlns='urn:xmpp:thumbs:1'
  elementFormDefault='qualified'>

  <xs:annotation>
    <xs:documentation>
      The protocol documented by this schema is defined in
      xxx
    </xs:documentation>
  </xs:annotation>

  <xs:element name='thumbnail'>
    <xs:complexType>
      <xs:attribute name='uri' type='xs:anyURI' use='required' />
      <xs:attribute name='media-type' type='xs:string' use='optional' />
    >
      <xs:attribute name='width' type='xs:integer' use='optional' />
      <xs:attribute name='height' type='xs:integer' use='optional' />
    </xs:complexType>
  </xs:element>
</xs:schema>
```

<sup>4</sup>XEP-0053: XMPP Registrar Function <<https://xmpp.org/extensions/xep-0053.html>>.