



XMPP

XEP-0264: File Transfer Thumbnails

Marcus Lundblad

<mailto:ml@update.uu.se>

<xmpp:mlundblad@jabber.org>

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This specification defines a way for a client supply a preview image for a file transfer.

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Contents

1	Introduction	1
2	Requirements	1
3	Use Case	1
3.1	Definition of the thumbnail Element	2
4	Security Considerations	4
5	IANA Considerations	4
6	XMPP Registrar Considerations	4
6.1	Protocol Namespaces	4
6.2	Protocol Versioning	4
7	XML Schema	5

1 Introduction

The current methods for file transfers include basic meta data about the file being offered (name, size, and date). There currently is no way to provide an image thumbnail for files such as photos.

2 Requirements

This documents defines a way to include a thumbnail image as an additional metadata in a file transfer.

3 Use Case

When a client wishes to supply a thumbnail in a transfer offer, it can do so by including an extra <thumbnail/> element as shown in the following exaples.

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

```
<iq type='set' id='offer1' to='receiver@jabber.org/resource'>
  <si xmlns='http://jabber.org/protocol/si'
    id='a0'
    mime-type='image/jpeg'
    profile='http://jabber.org/protocol/si/profile/file-transfer'>
    <file xmlns='http://jabber.org/protocol/si/profile/file-transfer'
      name='image.jpg'
      size='3032449'>
      <thumbnail xmlns='urn:xmpp:thumbs:0'
        cid='sha1+ffd7c8d28e9c5e82afea41f97108c6b4@bob.xmpp.
          org'
        mime-type='image/png'
        width='128'
        height='96' />
    </file>
    <feature xmlns='http://jabber.org/protocol/feature-neg'>
      <x xmlns='jabber:x:data' type='form'>
        <field var='stream-method' type='list-single'>
          <option><value>http://jabber.org/protocol/bytestreams</value>
            </option>
          <option><value>http://jabber.org/protocol/ibb</value></
            option>
        </field>
      </x>
    </feature>
  </si>
```

```
</iq>
```

The receiver MAY now request the data using the protocol defined in [Bits of Binary](#)¹.

Listing 2: 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:1'>
        <offer>
          <file xmlns='http://jabber.org/protocol/si/profile/file-
            transfer'
            name='image.jpg'
            size='3032449'
            hash='552da749930852c69ae5d2141d3766b1'
            date='1969-07-21T02:56:15Z'>
            <desc>This is a test. If this were a real file...</desc>
            <thumbnail xmlns='urn:xmpp:thumbs:0'
              cid='sha1+ffd7c8d28e9c5e82afea41f97108c6b4@bob.
                xmpp.org'
              mime-type='image/png'
              width='128'
              height='96' />
          </file>
        </offer>
      </description>
      ...
    </content>
  </jingle>
</iq>
```

3.1 Definition of the thumbnail Element

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

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

Attribute	Description	Inclusion
cid	A Content-ID that can be mapped to a cid: URL as specified in RFC 2111 RFC 2111: Content-ID and Message-ID Uniform Resource Locators < http://tools.ietf.org/html/rfc2111 >.. The 'cid' value SHOULD be of the form algo+hash@bob.xmpp.org, where the "algo" is the hashing algorithm used (e.g., "sha1" for the SHA-1 algorithm as specified in RFC 3174 RFC 3174: US Secure Hash Algorithm 1 (SHA1) < http://tools.ietf.org/html/rfc3174 >.) and the "hash" is the hex output of the algorithm applied to the binary data itself.	REQUIRED
mime-type	The value of the 'mime-type' attribute MUST match the syntax specified in RFC 2045 RFC 2045: Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies < http://tools.ietf.org/html/rfc2045 >.. 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 (e.g., the "audio/ogg" MIME type in the example shown below includes a "codecs" parameter as specified in RFC 4281 RFC 4281: The Codecs Parameter for "Bucket" Media Types < http://tools.ietf.org/html/rfc4281 >.). The "type/subtype" string SHOULD be registered in the IANA MIME Media Types Registry IANA registry of MIME media types < http://www.iana.org/assignments/media-types >., 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 i.e. a dialog window.	OPTIONAL
height	The intended display height of the thumbnail image. Used as a hint for the receiving client to prepare i.e. a dialog window.	OPTIONAL

4 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, of f.ex. 128x128 pixels, values exceeding these would then be truncated and the thumbnail image scaled down when received.

5 IANA Considerations

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

6 XMPP Registrar Considerations

6.1 Protocol Namespaces

This specification defines the following XML namespace:

- urn:xmpp:thumbs:0

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

6.2 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.

²The 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/).

³The 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 [<http://xmpp.org/registrar/>](http://xmpp.org/registrar/).

⁴XEP-0053: XMPP Registrar Function [<http://xmpp.org/extensions/xep-0053.html>](http://xmpp.org/extensions/xep-0053.html).

7 XML Schema

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

<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:thumbs:0'
  xmlns='urn:xmpp:thumbs:0'
  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='cid' type='xs:string' use='required' />
      <xs:attribute name='mime-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>
```