



XMPP

XEP-0446: File metadata element

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Experimental	Standards Track	file-metadata

This specification defines a generic file metadata element to be used in other specifications.

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1 Introduction

Several existing specifications have the need to provide metadata on a file. The only specification of an element that contains file metadata so far is provided as part of [Jingle File Transfer \(XEP-0234\)](#)¹. This resulted in the situation that XEPs like [Stateless Inline Media Sharing \(XEP-0385\)](#)² depend on the mostly unrelated [Jingle \(XEP-0166\)](#)³ just for the metadata element. The motivation of this XEP is to get rid of such dependencies and have a dedicated place to define a file metadata element.

2 Element format

```
<file xmlns='urn:xmpp:file:metadata:0'>
  <media-type>text/plain</media-type>
  <name>test.txt</name>
  <date>2015-07-26T21:46:00+01:00</date>
  <size>6144</size>
  <hash xmlns='urn:xmpp:hashes:2'
    algo='sha-1'>w0mcJylzCn+AfvuGdqkty2+KP48=</hash>
</file>
```

The child elements of the <file/> element are as follows:

Element Name	Description	Example
date	Timestamp specifying the last modified time of the file (which MUST conform to the Date-Time profile of XMPP Date and Time Profiles (XEP-0082) XEP-0082: XMPP Date and Time Profiles < https://xmpp.org/extensions/xep-0082.html >).	2015-07-26T21:46:00+01:00
desc	A human readable description of the file. Multiple <desc/> elements MAY be included if different xml:lang values are specified.	Picture of 24th XSF Summit

¹XEP-0234: Jingle File Transfer <<https://xmpp.org/extensions/xep-0234.html>>.

²XEP-0385: Stateless Inline Media Sharing (SIMS) <<https://xmpp.org/extensions/xep-0385.html>>.

³XEP-0166: Jingle <<https://xmpp.org/extensions/xep-0166.html>>.

Element Name	Description	Example
hash	A hash of the file content, using the <hash/> element defined in Use of Cryptographic Hash Functions in XMPP (XEP-0300) XEP-0300: Use of Cryptographic Hash Functions in XMPP < https://xmpp.org/extensions/xep-0300.html >. and qualified by the 'urn:xmpp:hashes:2' namespace. Multiple hashes MAY be included for hash agility.	see specification
height	Vertical dimensions of image or video files, in pixels.	1920
length	Length of an audio or video file, in milliseconds.	63000
media-type	The media type of the file content, which SHOULD be a valid MIME-TYPE as registered with the Internet Assigned Numbers Authority (IANA) 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/ >. (specifically, as listed at < http://www.iana.org/assignments/media-types/ >). If not specified, the content is assumed to be "application/octet-stream".	text/plain

Element Name	Description	Example
name	The name of the file. The name SHOULD NOT contain characters or character sequences that would be interpreted as a directory structure by the local file system (e.g. <code>"/</code> , <code>"\</code> , <code>"../</code> , etc.). If any such characters or character sequences are present (possibly because the local and remote file systems use different syntax for directory structure), they SHOULD be escaped (e.g., via percent-encoding) before using the name as part of any file system operation. See Security Considerations.	text.txt
size	The length of the file's content, in bytes.	6144
thumbnail	A thumbnail element of the file, using the <code><thumbnail/></code> element defined in File Transfer Thumbnails (XEP-0264) XEP-0264: File Transfer Thumbnails <code><https://xmpp.org/extensions/xep-0264.html></code> . and qualified by the <code>'urn:xmpp:thumbs:1'</code> namespace. Multiple thumbnails MAY be included for media type and size agility.	see specification
width	Horizontal dimensions of image or video files, in pixels.	1080

All child elements are OPTIONAL, however, specifications making use of the file metadata object MAY require providing some of these elements as part of their specification.

3 Security Considerations

Caution needs to be exercised when using the `<name/>` of the metadata to control any interaction with a file system. For example, a malicious user could request a file with `<name>/etc/passwd</name>` or include file system specific control patterns such as `<name>../../private.txt</name>` to try and access a sensitive file outside of the set of

files intended to be shared. Or a malicious user could offer a file named `/etc/passwd` to try and trick the receiver into overwriting that or other sensitive files. Therefore, implementations SHOULD escape any file system path separators in the `<name/>` before using that value in any file system calls.

It is RECOMMENDED for implementations to use the strongest hashing algorithm available to both parties. See [Use of Cryptographic Hash Functions in XMPP \(XEP-0300\)](#)⁴ for further discussion.

4 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#)⁵.

5 XMPP Registrar Considerations

5.1 Protocol Namespaces

The [XMPP Registrar](#)⁶ includes `'urn:xmpp:file:metadata:0'` in its registry of protocol namespaces (see [<https://xmpp.org/registrar/namespaces.html>](https://xmpp.org/registrar/namespaces.html)).

- `urn:xmpp:file:metadata:0`

6 Acknowledgements

Thanks to the authors of [Jingle File Transfer \(XEP-0234\)](#)⁷ which heavily inspired this XEP.

⁴XEP-0300: Use of Cryptographic Hash Functions in XMPP [<https://xmpp.org/extensions/xep-0300.html>](https://xmpp.org/extensions/xep-0300.html).

⁵The 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/).

⁶The 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/>.

⁷XEP-0234: Jingle File Transfer [<https://xmpp.org/extensions/xep-0234.html>](https://xmpp.org/extensions/xep-0234.html).