



# XMPP

## XEP-0425: Message Moderation

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This specification defines a method for groupchat moderators to moderate messages.

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## 1 Introduction

Occasionally, a [Multi-User Chat \(XEP-0045\)](#)<sup>1</sup> moderator might wish to moderate certain groupchat messages by, for example, retracting them from the groupchat history as part of an effort to address and remedy issues such as message spam, indecent language for the venue or exposing private third-party personal information. Alternatively, a moderator might want to correct a message on another user's behalf, or flag a message as inappropriate without requiring that it be retracted.

Due to the federated nature of XMPP and as with any content moderation tool, the moderation request can **only be considered as a hint** and clients which don't support message moderation are not obligated to enforce any such request.

## 2 Discovering support

If a client or service implements message moderation, it MUST specify the 'urn:xmpp:message-moderate:0' feature in its service discovery information features as specified in [Service Discovery \(XEP-0030\)](#)<sup>2</sup> and the Entity Capabilities profile specified in [Entity Capabilities \(XEP-0115\)](#)<sup>3</sup>.

Listing 1: Client requests information from a groupchat service

```
<iq type='get'
  from='romeo@montague.example/orchard'
  to='room@muc.example.com'
  id='info1'>
  <query xmlns='http://jabber.org/protocol/disco#info' />
</iq>
```

Listing 2: The groupchat service advertises support for moderation

```
<iq type='result'
  to='romeo@montague.example/home'
  from='room@muc.example.com'
  id='info1'>
  <query xmlns='http://jabber.org/protocol/disco#info'>
  ...
    <feature var='urn:xmpp:message-moderate:0' />
  ...
  </query>
</iq>
```

<sup>1</sup>XEP-0045: Multi-User Chat <<https://xmpp.org/extensions/xep-0045.html>>.

<sup>2</sup>XEP-0030: Service Discovery <<https://xmpp.org/extensions/xep-0030.html>>.

<sup>3</sup>XEP-0115: Entity Capabilities <<https://xmpp.org/extensions/xep-0115.html>>.

### 3 Use Case

Consider a situation where a user sends a message that may be deemed inappropriate by a groupchat moderator. The groupchat service will append a [Unique and Stable Stanza IDs \(XEP-0359\)](#)<sup>4</sup> stanza ID to the message before relaying it to all participants.

Listing 3: The user's client sends a message and the groupchat service adds a stanza id.

```
<message type="groupchat" from="room@muc.example.com/oldhag" to='
  room@muc.example.com/macbeth' id='inappropriate-1'>
  <body>DM me for free magic potions!</body>
  <stanza-id xmlns='urn:xmpp:sid:0' id='stanza-id-1' by='room@muc.
    example.com' />
</message>
```

The moderator sees the message and indicates to their client that the message should be retracted. The client then sends an IQ stanza to the MUC service, requesting that the message be retracted.

Listing 4: The moderator's client sends an IQ stanza to the MUC service

```
<iq type='set' to='room@muc.example.com' id='retract-request-1'>
  <apply-to id="stanza-id-1" xmlns="urn:xmpp:fasten:0">
    <moderate xmlns='urn:xmpp:message-moderate:0'>
      <retract xmlns='urn:xmpp:message-retract:0' />
      <reason>This message contains inappropriate content for this
        forum</reason>
    </moderate>
  </apply-to>
</iq>
```

#### 3.1 Success case

If the moderator is allowed to moderate the message, the groupchat service will send a message stanza to all participants (including the moderator), indicating that the message has been retracted and by whom.

This message will use [Message Fastening \(XEP-0422\)](#)<sup>5</sup> to indicate that it applies to the moderated message, by referring to its XEP-0359 Stanza ID.

Listing 5: The groupchat service sends a moderation message to all participants

```
<message type="groupchat" id='retraction-id-1' from='room@muc.example.
  com' to="room@muc.example.com/macbeth">
  <apply-to id="stanza-id-1" xmlns="urn:xmpp:fasten:0">
```

<sup>4</sup>XEP-0359: Unique and Stable Stanza IDs <<https://xmpp.org/extensions/xep-0359.html>>.

<sup>5</sup>XEP-0422: Message Fastening <<https://xmpp.org/extensions/xep-0422.html>>.

```

<moderated by='room@muc.example.com/macbeth' xmlns='
  urn:xmpp:message-moderate:0'>
  <retract xmlns='urn:xmpp:message-retract:0' />
  <reason>This message contains inappropriate content for this
    forum</reason>
</moderated>
</apply-to>
</message>

```

The groupchat service also responds with an IQ "result" stanza.

Listing 6: The groupchat service responds to the IQ stanza

```

<iq type='result' to='juliet@montague.example/home' id='retract-
  request-1'></iq>

```

### 3.2 Error case

In case the message could for some reason not be retracted, the groupchat service responds with an IQ stanza of type error.

Listing 7: The groupchat service responds with an error stanza

```

<iq type='error' to='room@muc.example.com/macbeth' id='retract-request
  -1'>
<error type='modify'>
  <forbidden xmlns='urn:ietf:params:xml:ns:xmpp-stanzas' />
  <text xmlns='urn:ietf:params:xml:ns:xmpp-stanzas'>
    Only moderators are allowed to moderate other participants'
      messages
  </text>
</error>
</iq>

```

## 4 Tombstones

A [Message Archive Management \(XEP-0313\)](https://xmpp.org/extensions/xep-0313.html)<sup>6</sup> service MAY replace the contents of a message, that was retracted due to moderation, with a 'tombstone' similar to the one described in [Message Retraction \(XEP-0424\)](https://xmpp.org/extensions/xep-0424.html)<sup>7</sup>.

The archiving service replaces the message contents (i.e. the <body/> and any related elements which might leak information about the original message) with a <moderated/> element which in turn contains a <retracted/> element. The <moderated/> element MUST have a 'by' attribute specifying the JID of the moderating entity.

<sup>6</sup>XEP-0313: Message Archive Management <<https://xmpp.org/extensions/xep-0313.html>>.

<sup>7</sup>XEP-0424: Message Retraction <<https://xmpp.org/extensions/xep-0424.html>>.

If the message was sent in a semi-anonymous MUC, the occupant id from [Anonymous unique occupant identifiers for MUCs \(XEP-0421\)](#)<sup>8</sup> SHOULD be included for the moderator and the message author in the <moderated/> and <retracted/> elements respectively.

Listing 8: Retracted groupchat message tombstone in a MAM result

```
<message id='aeb213' to='room@muc.example.com/macbeth'>
  <result xmlns='urn:xmpp:mam:2' queryid='f28' id='stanza-id-1'>
    <forwarded xmlns='urn:xmpp:forward:0'>
      <delay xmlns='urn:xmpp:delay' stamp='2019-09-20T23:18:41Z' />
      <message type="groupchat" from="room@muc.example.com/oldhag" to="
        room@muc.example.com/macbeth" id="message-id-1">
        <occupant-id xmlns="urn:xmpp:occupant-id:0" id="
          ef73b09de9c90a38ba552f7c68cbeef1dca24429" />
        <moderated by="witch@shakespeare.example">
          <occupant-id xmlns="urn:xmpp:occupant-id:0" id="
            dd72603deec90a38ba552f7c68cbcc61bca202cd" />
          <retracted stamp='2019-09-20T23:19:12Z' xmlns='
            urn:xmpp:message-retract:0' />
          <reason>This message contains inappropriate content for this
            forum</reason>
        </moderated>
      </message>
    </forwarded>
  </result>
</message>
```

## 5 Business Rules

A moderator MUST NOT send a moderation request for a message with non-messaging payloads. For example, a moderator MUST NOT moderate a roster item exchange request or a file transfer part.

In MUCs, only moderation messages (not tombstones, but messages containing the <moderate/> element) received from the MUC service itself are legitimate, all other such messages MUST be discarded.

If message moderation includes a retraction request, the MUC or other service that supports message retraction SHOULD prevent further distribution of the retracted message by the service and the archiving service MAY replace the retracted message with a tombstone as detailed in [Message Retraction \(XEP-0424\)](#)<sup>9</sup>.

<sup>8</sup>XEP-0421: Anonymous unique occupant identifiers for MUCs <<https://xmpp.org/extensions/xep-0421.html>>.

<sup>9</sup>XEP-0424: Message Retraction <<https://xmpp.org/extensions/xep-0424.html>>.

## 6 Security Considerations

There can never be a guarantee that a moderated message will appear as such in all clients. Clients should therefore, when possible, inform users that no such guarantee exists.

To prevent message spoofing, it's very important to check that the moderation message comes from the MUC service (as explained in the [Business Rules](#) section).

## 7 IANA Considerations

None.

## 8 XMPP Registrar Considerations

### 8.1 Protocol Namespaces

The [XMPP Registrar](#)<sup>10</sup> includes 'urn:xmpp:message-moderate:0' in its registry of protocol namespaces (see <https://xmpp.org/registrar/namespaces.html>).

- urn:xmpp:message-moderate:0

### 8.2 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.

## 9 XML Schema

```
<?xml version='1.0' encoding='UTF-8'?>
<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
  targetNamespace='urn:xmpp:message-moderate:0'
  xmlns='urn:xmpp:message-moderate:0'
  elementFormDefault='qualified'>
```

---

<sup>10</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/>.



```
<xs:element name='moderate'></xs:element>

<xs:element name='moderated'>
  <xs:complexType>
    <xs:simpleContent>
      <xs:extension base='xs:string'>
        <xs:attribute name='by' type='xs:string' use='required' />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:element>

</xs:schema>
```