



# XMPP

## XEP-0091: Legacy Delayed Delivery

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Obsolete	Historical	x-delay

This specification provides historical documentation of the legacy jabber:x:delay namespace, which has been deprecated in favor the urn:xmpp:delay namespace defined in XEP-0203.

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## 1 Introduction

Note: This specification has been deprecated in favor of [Delayed Delivery \(XEP-0203\)](#) <sup>1</sup>. This document provides canonical documentation of the 'jabber:x:delay' namespace, which was long used by Jabber applications to mark message or presence stanzas as delivered with a delay. This document is of historical importance only, since it has been deprecated in favor of XEP-0203.

## 2 Protocol Definition

The 'jabber:x:delay' namespace is used to provide timestamp information about data stored for later delivery. The most common uses of this namespace are to stamp:

- A message that is sent to an offline entity and stored for later delivery.
- The last presence update sent by a connected node to a host.
- Messages cached by a multi-user chat room for delivery to new participants when they join the room.

Information about the delivery delay is communicated by adding to the <message/> or <presence/> stanza one and only one <x/> child qualified by the 'jabber:x:delay' namespace. This information is added by the server or component that delivers the information. The following attributes are allowed on the <x/> element:

- from -- The Jabber ID of the entity that originally sent the XML stanza or that delayed the delivery of the stanza (for example, the address of a multi-user chat room). This attribute is RECOMMENDED.
- stamp -- The time when the XML stanza was originally sent. The format SHOULD be "CCYYMMDDThh:mm:ss" (see A Note on Time Formats below). This attribute is REQUIRED.

In addition, the <x/> element MAY contain XML character data that provides a natural-language description of the reason for the delay.

## 3 Examples

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<sup>1</sup>XEP-0203: Delayed Delivery <<http://xmpp.org/extensions/xep-0203.html>>.

Listing 1: Receiving a Message Sent While Offline

```
<message
  from='romeo@montague.net/orchard'
  to='juliet@capulet.com'
  type='chat'>
  <body>
    O blessed, blessed night! I am afeard.
    Being in night, all this is but a dream,
    Too flattering-sweet to be substantial.
  </body>
  <x xmlns='jabber:x:delay'
    from='capulet.com'
    stamp='20020910T23:08:25'>
    Offline Storage
  </x>
</message>
```

Listing 2: Receiving the Last Presence Update of Another Entity

```
<presence from='juliet@capulet.com/balcony' to='romeo@montague.net'>
  <status>anon!</status>
  <show>xa</show>
  <priority>1</priority>
  <x xmlns='jabber:x:delay'
    from='juliet@capulet.com/balcony'
    stamp='20020910T23:41:07' />
</presence>
```

Listing 3: Receiving Cached Messages from a Conference Room

```
<message
  from='coven@macbeth.shakespeare.lit/secondwitch'
  to='macbeth@shakespeare.lit/laptop'
  type='groupchat'>
  <body>
    By the pricking of my thumbs,
    Something wicked this way comes.
    Open, locks,
    Whoever knocks!
  </body>
  <x xmlns='jabber:x:delay'
    from='coven@macbeth.shakespeare.lit'
    stamp='20020910T23:05:37' />
</message>
```

## 4 A Note on Time Formats

[XMPP Date and Time Profiles \(XEP-0082\)](#) <sup>2</sup> defines the lexical representation of dates, times, and datetimes in Jabber protocols. Unfortunately, the 'jabber:x:delay' namespace predates that definition, and uses a datetime format ("CCYYMMDDThh:mm:ss") that is inconsistent with XEP-0082 and [XML Schema Part 2](#) <sup>3</sup>. Because a large base of deployed software uses the old format, this document specifies that applications using 'jabber:x:delay' SHOULD use the old format, not the format defined in XEP-0082. The timezone is understood as UTC.

## 5 Security Considerations

Data qualified by the 'jabber:x:delay' can expose information about the sender's presence on the network at some time in the past. However, this introduces no new vulnerabilities, since the same information would have been available in real time.

## 6 IANA Considerations

This document requires no interaction with the [Internet Assigned Numbers Authority \(IANA\)](#) <sup>4</sup>.

## 7 XMPP Registrar Considerations

The 'jabber:x:delay' namespace is included in the protocol namespaces registry maintained by the [XMPP Registrar](#) <sup>5</sup>.

## 8 XML Schema

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

<xs:schema
  xmlns:xs='http://www.w3.org/2001/XMLSchema'
```

<sup>2</sup>XEP-0082: XMPP Date and Time Profiles <<http://xmpp.org/extensions/xep-0082.html>>.

<sup>3</sup>XML Schema Part 2: Datatypes <<http://www.w3.org/TR/xmlschema-2/>>.

<sup>4</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/>>.

<sup>5</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 <<http://xmpp.org/registrar/>>.

```
targetNamespace='jabber:x:delay'
xmlns='jabber:x:delay'
elementFormDefault='qualified'>

<xs:annotation>
  <xs:documentation>
    The protocol documented by this schema is defined in
    XEP-0091: http://www.xmpp.org/extensions/xep-0091.html

    NOTE: This protocol has been deprecated in favor of the
    Delayed Delivery protocol specified in XEP-0203:
    http://www.xmpp.org/extensions/xep-0203.html
  </xs:documentation>
</xs:annotation>

<xs:element name='x'>
  <xs:complexType>
    <xs:simpleContent>
      <xs:extension base='xs:string'>
        <xs:attribute name='from' type='xs:string' use='optional' />
        <xs:attribute name='stamp' type='xs:string' use='required' />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:element>

</xs:schema>
```