



Jabber/XMPP: 25 Years of Digital Independence

Open Source Conference Luxembourg 2026

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Thesis

Open source is necessary, but not sufficient for digital sovereignty.

What Open Source provides

- Protection against spyware
- Verifiable cryptography
- Code that can be inspected and understood

What Open Source does not provide

- Protection against service shutdown
- Protection against sanctions
- Protection against regional blocks
(Signal threatened to withdraw from the EU if chat control is put into law)
- Protection against the operator's arbitrary decisions
(TOS, “rug pull”, ...)

Thesis

Genuine sovereignty requires complete interchangeability.

Sovereignty

- **Federated identity:** Switch server providers without losing the ability to communicate with others (user@example.com)
- **Interchangeable software:** Switch both clients and servers freely
- **No lock-in:** Any vendor can be replaced at any time

Thesis

A publicly documented API is not, by itself, an open standard.

Standards Developing Organization (SDO)

- ISO, IETF, W3C, Unicode Consortium
- IETF standards: DNS, HTTP, JSON, TLS 1.3, SSH
- Not a standard: Simple Storage Service (S3)
- **Broad consensus among independent parties**

Extensible Messaging and Presence Protocol (XMPP)

RFC 6120 & RFC 6121

Extensible Messaging and Presence Protocol (XMPP)

- **Federated Instant Messaging:** Like email or Mastodon, not a walled garden
- **Interchangeable:** Any client works with any server
- **Independent:** Mostly open source, community-driven, no VC funding
- **Governed by an SDO:** Multi-vendor consensus, not a private API
RFC 3920, RFC 3921 (October 2004) • RFC 6120, RFC 6121 (March 2011)
- **Battle-tested:** Over 25 years of adapting to changing requirements

XMPP Standards Foundation



- Independent, non-profit standards organization
- Members elect Board and Council
- Rules prevent any single company from dominating
- XMPP Extension Protocols (XEP) extend RFCs
- 500+ extensions defined (140+ active, stable, or final)

Status quo

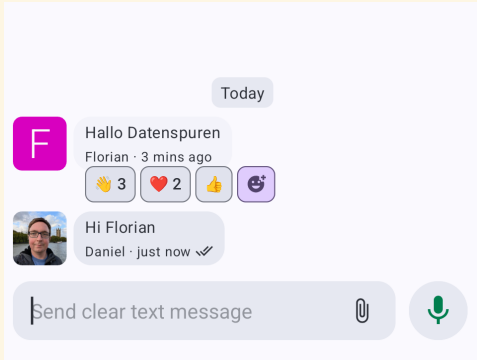
Notable features from recent years

Extensible SASL Profile (SASL2), Bind 2 and FAST

- Direct TLS
- Authenticated and fully connected in one round trip
- Hashed Token instead of SCRAM (IETF Kitten WG)
- Broad adoption across the ecosystem
(Prosody, ejabberd, Openfire, MongooselM, Tigase¹)

¹excluding Hashed Token

Emoji Reactions



- XEP-0444: Message Reactions
- Conversations, converse.js, Gajim, Dino, Movim, poezio, Psi

Moderation

- XEP-0425: Moderated Message Retraction
- Combating spam in “public channels”
- Requires server support
- Ban + delete all messages in one step (client-side)

Hats



ralphm

Owner

XSF member

Board



Ge0rG

Admin

XSF member

Mod



jonas'

Admin



singpolyma

Admin

Council

XSF member

Mod



alexkurisu

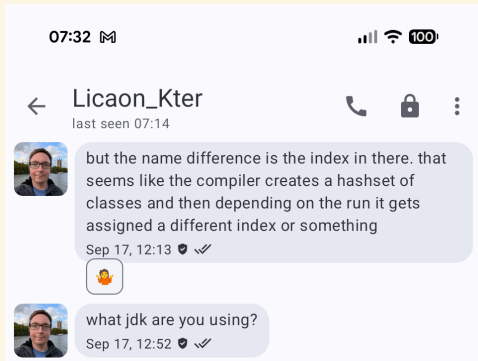
Member

- XEP-0317: Hats
- Organisational roles, not technical roles

Multi-device synchronisation of read status

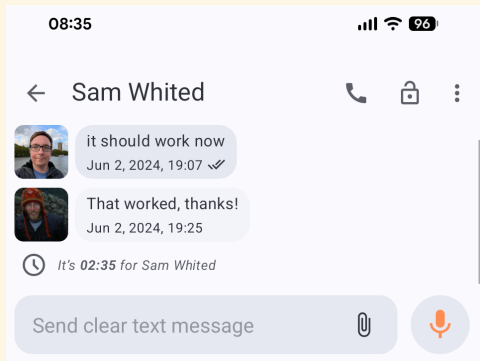
- XEP-0333: Displayed Markers
 - Lets contact(s) know that a message has been read
 - Can be turned off (for privacy reasons)
 - Often disabled in large groups
- XEP-0490: Message Displayed Synchronization

Last seen



- XEP-0319: Last User Interaction in Presence
- Gajim, converse.js, Monal, Conversations, Movim, poezio
- „off by default“ in Conversations

Time zone display for contacts



- XEP-0202: Entity Time, March 2007
- Responding to requests is widely supported.
- New way of displaying time zones since 2025

Implementation tracking

Software Specifications Community Getting Started News Jobs

New XEPs

- XEP-0318 Payment Required
- XEP-0317 Angle Synchronized Real-Time Text
- XEP-0316 XMPP Decentralized ID (XDI)
- XEP-0315 TLS Channel-Binding Downgrade Protection
- XEP-0314 Error Markup

Recently Updated XEPs

- XEP-0315 TLS Channel-Binding Downgrade Protection
- XEP-0318 Payment Required
- XEP-0034 User Avatar
- XEP-0003 Message Displayed Synchronization
- XEP-0066 Out of Band Data

The whole list

The XMPP Standards Foundation develops extensions to XMPP in its XEP series. This page lists Stable and Final XEPs as well as experimental proposals that are currently under consideration.

XEP series data can be explored using data.xmpp.net/explore/.

Good places for developers to start are the [compliance suites](#), as well as the [technology overview pages](#). For further reading, we suggest the independent [Modern XMPP project](#) which attempts to improve the quality of user-to-user messaging applications that use XMPP.

The following table is sortable, just click on the headers (click twice to reverse the sort order). You can show/hide the various types of XEPs by applying filters via the Filter button below.

Filter XEPs

Filter XEPs

Only checked types will be shown

☐ Proposed ☒ Stable ☒ Final ☐ Active

☐ Deprecated ☐ Obsolete ☐ Rejected ☐ Retracted

☐ Experimental ☐ Deferred ☒ Dormant

▲ Dormant XEPs in Experimental/Deferred are hidden. Check Dormant to show all Experimental/Deferred XEPs.

Showing 91 of 518 XEPs (2 filters active)

Number	Name	Type	Status	Date	Tags	Implementations
XEP-0004	Data Forms (x-data)	Standards Track	Final	2004-08-20		46
XEP-0009	Jabber-RPC (x-rpc)	Standards Track	Final	2007-09-04		6
XEP-0012	Last Activity (x-last)	Standards Track	Final	2008-11-26		20
XEP-0030	Service Discovery (x-service)	Standards Track	Final	2004-04-30		93
XEP-0033	Extended Stanza Addressing (x-addr)	Standards Track	Stable	2007-05-15		10
XEP-0045	Multi-User Chat (x-muc)	Standards Track	Stable	2006-06-05		93

XEP-0030: Service Discovery

Last XEP revision: Version 2.5.0 (2024-04-30)

Name	Status	Since Version	XEP Version
Artalk.Xmpp	✓	2.0.0	2.5.0
AstraChat XMPP Client	-	-	-
AstraChat XMPP Server	-	-	-
Artalk	✓	0.5.8	2.5.0
Beagle IM	✓	-	2.5x3
Bruce	✓	-	2.5x3
Cheogram Android	✓	-	2.5x3
Conversations	✓	-	2.5x3
Converse.js	✓	0.8.2	-
CoyIM	✓	-	-
co-xmpp	✓	-	-
Dino	✓	0.1	-
eggbert	✓	0.1.0	2.5.0
DragonElixir XMPP	-	-	2.5.0
Ethara	✓	-	-
Fluxus Messenger	✓	-	-
Gajim	✓	-	2.4
Hatizen	✓	-	2.5x3
Jabber.al	✓	-	2.5.0
JaxXMPP	✓	-	2.5x3
Kalden	✓	0.2	2.4
Likewise	✓	-	2.5.0
Martin	✓	-	2.5x3
Metronome IM	✓	-	2.4
Moranda NG	-	-	-
Murai IM	✓	4.6	2.5.0
MongooseIM	✓	-	2.5.0
monocles chat	✓	-	2.5x3
Moovin	✓	-	2.5
moosmpp	✓	-	2.5x3
Moxy	✓	-	2.5x3

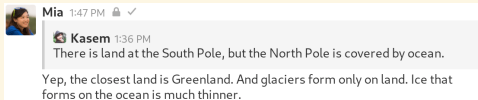
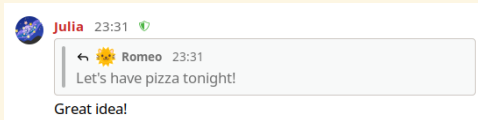
xmpp.org/extensions

Looking ahead

Upcoming protocol developments

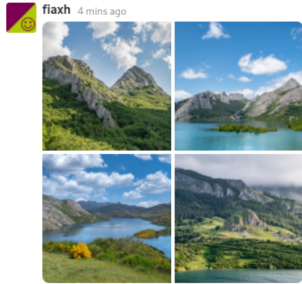
- XEP-0420: Stanza Content Encryption
- Specified Double Ratchet (previously: use libsignal-protocol)
- More robust. 10 years of experience OMEMO

Message Replies



- XEP-0461: Message Replies
- Gajim, Dino, Movim, converse.js

Galerie / Multi-Image-Sharing



- XEP-0447: Stateless file sharing
- With thumbnails
- Requires OMEMO 2

OAuth integration



- Web client sign-in
- Central user management (Keycloak)
- XMPP Sprint London, November 2026

XMPP 2.0

Back to the IETF



- Update the core RFC
(Setting up the connection looks completely different)
- Combine popular XEPs
- Side Meeting IETF 126 Vienna
- BoF IETF 128 Kuala Lumpur
(non-working group forming?)

Questions?

joinjabber.org · xmpp.org