

# A Universal and Stable API to Everything: XMPP

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# A Universal and Stable API to Everything: XMPP

# Who am I

- ▶ XMPP developer for 15+ years
- ▶ Member of XSF for 10 years
- ▶ Creator and lead dev of Libervia
- ▶ XMPP Council member for 2024/2025 term

# What is XMPP?

- ▶ **EX**tensible **M**essaging and **P**resence **P**rotocol
- ▶ Initially designed for Instant Messaging
- ▶ Introduced in 1999 (26 years old)
- ▶ Widely used
- ▶ Extensible => any use case
- ▶ Great backward compatibility

## Use Case: BeerBot



**BeerBot**





**BeerBot**



**What's up, doc?**



**BeerBot**



- API
- Library?
- Learn/Experiment
- Implement



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**Smoke Signal**



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BeerBot



- ~~API V2~~
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Morse Code



BeerBot



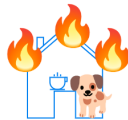
Gateway

- ~~API V2~~
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Morse Code

# Why Use XMPP for Building Your Tools?

- ▶ Do it once
- ▶ Specified and coherent way to do things
- ▶ Reusability
- ▶ Flexibility
- ▶ XMPP does a lot for you
  - ▶ Authentication
  - ▶ End-to-end encryption (E2EE)
  - ▶ Ad-hoc Commands
  - ▶ P2P connections
  - ▶ Pubsub
  - ▶ etc.
- ▶ Gateways handle the burden
- ▶ It can even improve features (e.g., Atom/RSS)

How is the **X**MPP **S**tandards **F**oundation  
Organised?

# How is the **X**MPP **S**tandards **F**oundation Organised?

- ▶ Members
- ▶ Standard Mailing List
- ▶ Summit
- ▶ XSF Board
- ▶ XSF Council



# Overview

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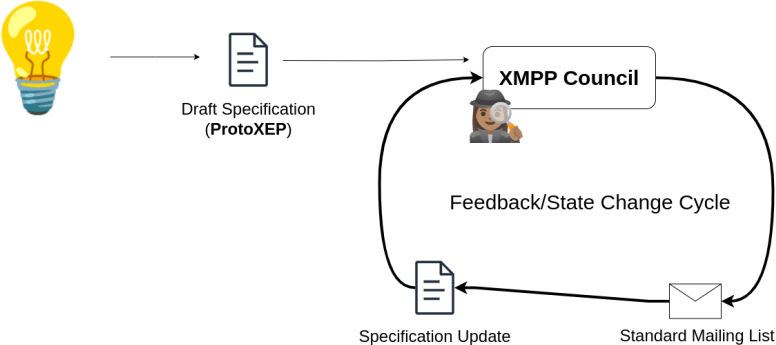


Figure 1: Specification Process Overview

# How I Learned to Stop Worrying and Love the XEPs

# How I Learned to Stop Worrying and Love the XEPs

- ▶ A XEP does one thing and does it (hopefully) well.
- ▶ They reuse existing mechanisms whenever possible.
- ▶ They play nicely together.
- ▶ A tool to understand features.
- ▶ The more XEPs, the more features covered.

A (Very Short) Selection of Useful Specifications

## Ad-Hoc Commands

- ▶ Easy to implement
- ▶ Data forms
- ▶ Can be dynamic
- ▶ Useful for anything requiring RPC-like mechanisms

# Pubsub

- ▶ Publish/Subscribe
- ▶ Notifications
- ▶ Permissions
- ▶ Node Hierarchy
- ▶ Easy to use
- ▶ Very flexible
- ▶ Useful for anything requiring notifications, access permissions, item management, etc.

# Jingle

- ▶ Connection establishment
- ▶ P2P whenever possible
- ▶ NAT/hostile network traversal
- ▶ Can be assisted
- ▶ Useful for everything requiring speed and/or bandwidth and/or bypassing servers



# Gateways

- ▶ On the server
- ▶ Updated for you
- ▶ Can be well-integrated
- ▶ Can be privileged
- ▶ E2EE on the way

But I Don't Like XML

# But I Don't Like XML

## **Developers don't have to deal with XML**

- ▶ You don't have to learn how to build an engine to drive a car.
- ▶ You don't have to learn how to design a CPU to use a computer.
- ▶ You don't have to learn HTTP to browse a website.
- ▶ (It's fun, but I can't do most of them!)
- ▶ Libraries/frameworks usually handle it for you

- ▶ XML is needed if you want to:
  - ▶ Write specifications
  - ▶ Implement them
- ▶ XMPP's XML is easy to work with

XMPP Ecosystem is Rich; Plenty of Tools Exist.

# Examples

- ▶ Slixmpp
- ▶ Prosody
- ▶ Libervia CLI
- ▶ Check out <https://xmpp.org/software>

# Conclusion

## XMPP Is Great — Use It!

- ▶ It does a lot for you.
- ▶ Great backward compatibility.
- ▶ Active community.
- ▶ Versatility.

## XMPP Is Much More Than IM

- ▶ Consider XMPP for future projects.
- ▶ Explore the XEPs, Luke
- ▶ Join the community for support and updates.
  - ▶ standard@ mailing list
  - ▶ Your project's chat room





## Questions

# Questions

Thank you for attending!

Feel free to reach out with questions or feedback.

*Contact Information:*

- ▶ **XMPP Chat Room:** [libervia@chat.jabberfr.org](mailto:libervia@chat.jabberfr.org)
- ▶ **ActivityPub Handle:** [@goffi@mastodon.social](https://mstdn.social/@goffi)
- ▶ **Website:** <https://libervia.org>
- ▶ **Blog:** <https://goffi.org>

Thank You!