ActivityPub

a decentralized social networking protocol

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TECH

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GMT+1

Can ActivityPub save the internet?

The tech industry is abuzz about a new standard for social networking that is more open, more user-centric, and potentially more powerful than Twitter and Facebook. But we've been here before.

By **David Pierce**, editor-at-large and Vergecast co-host with over a decade of experience covering consumer tech. Previously, at Protocol, The Wall Street Journal, and Wired.

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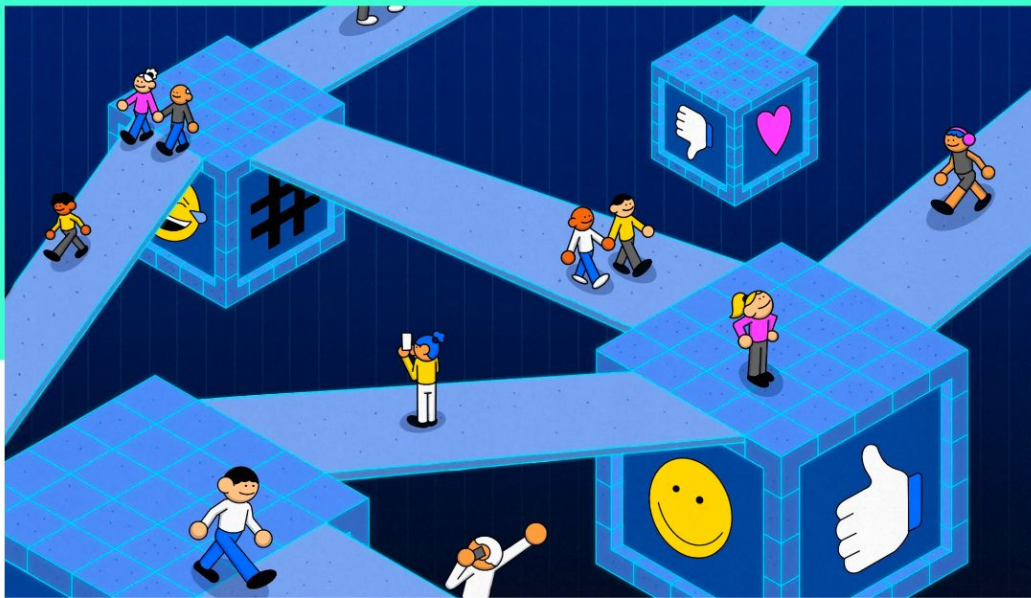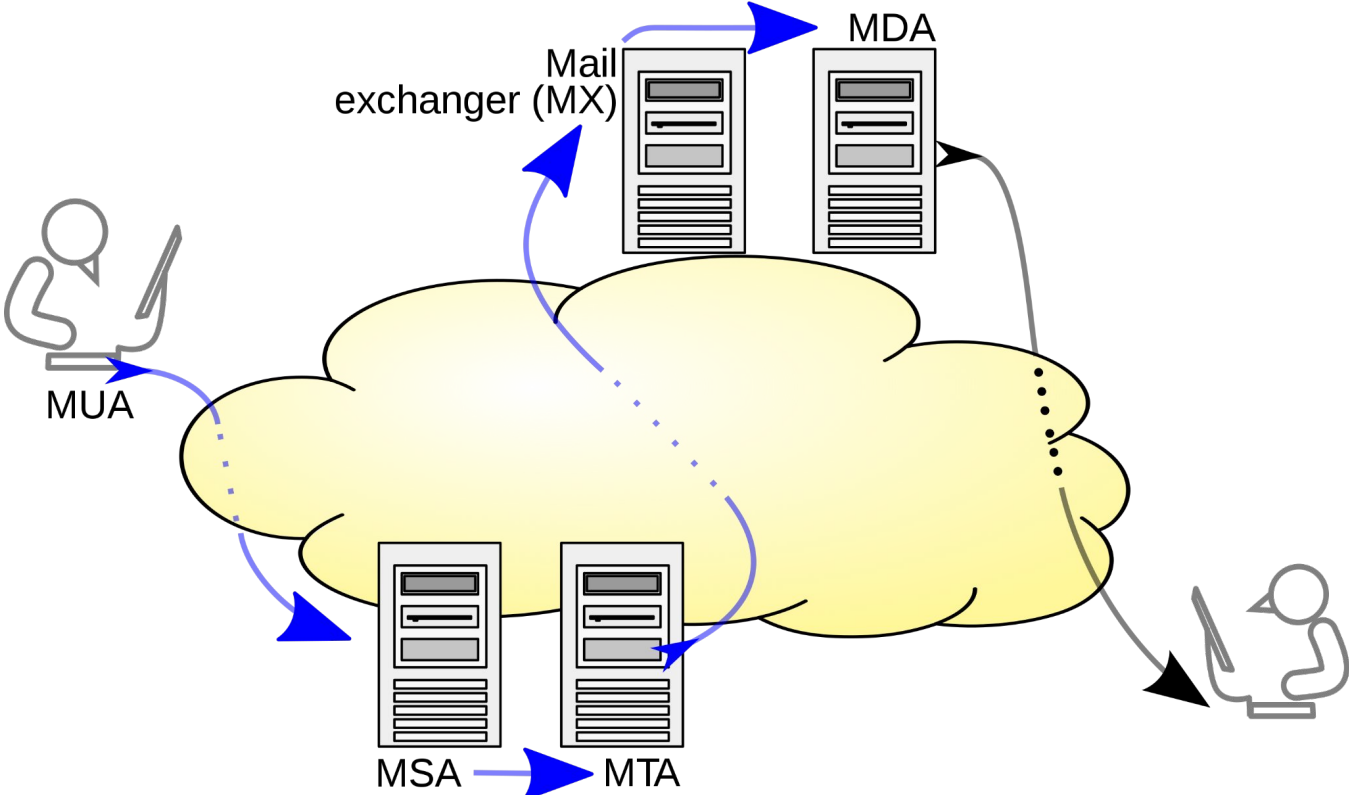
Email

After self-hosting my email for twenty-three years I have thrown in the towel. The oligopoly has won.

September 04, 2022 — Carlos Fenollosa

Many companies have been trying to disrupt email by making it proprietary. So far, they have failed. Email keeps being an open protocol. Hurray?

No hurray. Email is not *distributed* anymore. You just cannot create another first-class node of this network.

Email is now an oligopoly, a service gatekept by a few big companies which does not follow the principles of net neutrality.

I have been self-hosting my email since I got my first broadband connection at home in 1999. I absolutely loved having a personal web+email server at home, paid extra for a static IP and a real router so people could connect from the outside. I felt like a first-class citizen of the Internet and I learned so much.

Over time I realized that residential IP blocks were banned on most servers. I moved my email server to a VPS. No luck. I quickly understood that **self-hosting email was a lost cause**. Nevertheless, I have been fighting back out of pure spite, obstinacy, and activism. In other words, because it was the right thing to do.

But my emails are just not delivered anymore. I might as well not have an email server.

So, starting today, the MX records of my personal domain no longer point to the IP of my personal server. They now point to one of the Big Email Providers.

I lost. We lost. One cannot reliably deploy independent email servers.

This is unethical, discriminatory and uncompetitive.

Record scratch
Freeze frame

Wait, *uncompetitive?*

Please bear with me. We will be there in a minute.

First, some basics for people who may not be familiar with the issue.

Facebook Friends

Twitter Followers

YouTube Subscribers

TikTok Followers

I'm old enough to remember when the Internet wasn't a group of five websites, each consisting of screenshots of text from the other four.

– Tom Eastman, 2018

Why is this a problem?

- Walled gardens, vendor lock-in
- High switching costs
- Lack of sovereignty (externalized to platforms)
- Privacy issues & data protection
- Centralization of power
    - Discretionary moderation
    - Control of (manipulative) algorithms
- Incentive to maximize engagement
- Ad-tech financed R&D

For most of the last 15 years, the social web has felt like a settled market – and then Elon Musk bought Twitter

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Elon Musk suspends US journalists' Twitter accounts

Billionaire owner of social media platform cites sharing of location information about his private jet

The suspension of journalists' Twitter profiles follows controversy over an account that tracked public information about Elon Musk's private jet © Dado Ruvic/Reuters

Dave Lee in San Francisco DECEMBER 16 2022

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What are the alternatives?
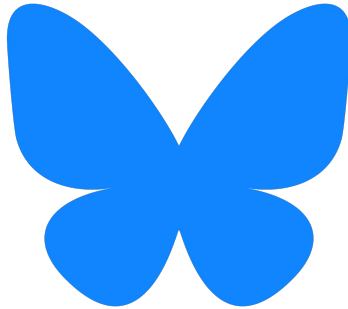
~~Facebook~~ Friends

~~Twitter~~ Followers

~~YouTube~~ Subscribers

~~TikTok~~ Followers

Don't you miss the days when the web really was the world's greatest decentralized network? Before everything got locked down into a handful of walled gardens?

Enter ActivityPub! ActivityPub is a decentralized social networking protocol based on the ActivityStreams 2.0 data format. ActivityPub is an official W3C recommended standard published by the W3C Social Web Working Group. It provides a client to server API for creating, updating and deleting content, as well as a federated server to server API for delivering notifications and subscribing to content.

ActivityPub

actor reads incoming messages

send messages to actor (federation!)

GET INBOX POST

REST OF THE WORLD

POST OUTBOX GET

actor sends messages / posts content

outside world can read messages from actor

So what can you do with it?

- A server can **POST** to someone's inbox to send them a message.
- Your client can **GET** from your inbox to read your messages.
- You can **POST** to your outbox to send messages to the world.
- You (or your server) can **GET** from someone's outbox to read messages.

Messages

```json
{
  "@context": "https://www.w3.org/ns/activitystreams",
  "summary": "Martin created an image",
  "type": "Create",
  "actor": "http://www.test.example/martin",
  "object": "http://example.org/foo.jpg"
}
```

Activity Types

Accept	Ignore	Read
Add	Invite	Remove
Announce	Join	TentativeReject
Arrive	Leave	TentativeAccept
Block	Like	**Travel**
Create	Listen	Undo
Delete	Move	Update
Dislike	Offer	View
Flag	Question	
Follow	Reject	

```
{
  "@context": "https://.../ns/as",
  "summary": "Sally went home from work",
  "type": "Travel",
  "actor": {
    "type": "Person",
    "name": "Sally"
  },
  "target": {
    "type": "Place",
    "name": "Home"
  },
  "origin": {
    "type": "Place",
    "name": "Work"
  }
}
```

Where is it used?

Service	Application
Microblogging	Mastodon, Pleroma, GNU social
Publishing	WordPress, Write.As
Sharing Knowledge	Drupal, SkoHub, OLKI (science), openEngiadina
Sharing Media	PeerTube (video), Castopod (podcast), PixelFed(pictures)
Sharing Events	Mobilizon, Gancio
Sharing Links	Lemmy
Sharing Code	ForgeFed, FedeProxy, GitLab (soon)

Who is using it?

- [BBC](#)
- [Thoughtworks](#)
- [EU Institutions](#)
- [German Government](#)
- [MIT](#)

Challenges

- Scalability - guarantees, ordering, celebrity follow challenge
- Fragmentation - existing communities now fragmented
- Embrace, Extend, Extinguish - the Threads challenge
- Moderation - choose your own policy, but moderation still a challenge
- Discoverability - where should I have a presence
- Identity portability - different from account portability

Want to know more?

- Specs: ActivityPub, Activity Streams, Activity Vocabulary
- Code: delightful ActivityPub development
- Guide for ActivityPub Users
- Understanding ActivityPub
- Activity Notes
- Building an ActivityPub Server
- Rebuilding FourSquare for ActivityPub using OpenStreetMap
- JSON for Linking Data

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Part time tinkerer, full time parent. Your friendly human rubber duck. Love helping others develop the confidence to have fun with technology.

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Nov 04, 2022

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⟲ Bill boosted

denise   🌐 Mar 5
@deniseyu@mastodon.social

North Americans have a hangup about going out and doing things alone. I went to a concert on my own tonight for the first time ever (a big one! A real one! Not just like at the local jazz bar) and realized that going to concerts alone is… actually fun! And not weird at all. No one else even noticed, and I got to go/do whatever I wanted the whole time.

mastodon

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#fosdem
No posts

0