Matrix

An open network for secure, decentralized communication

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This presentation

Available at
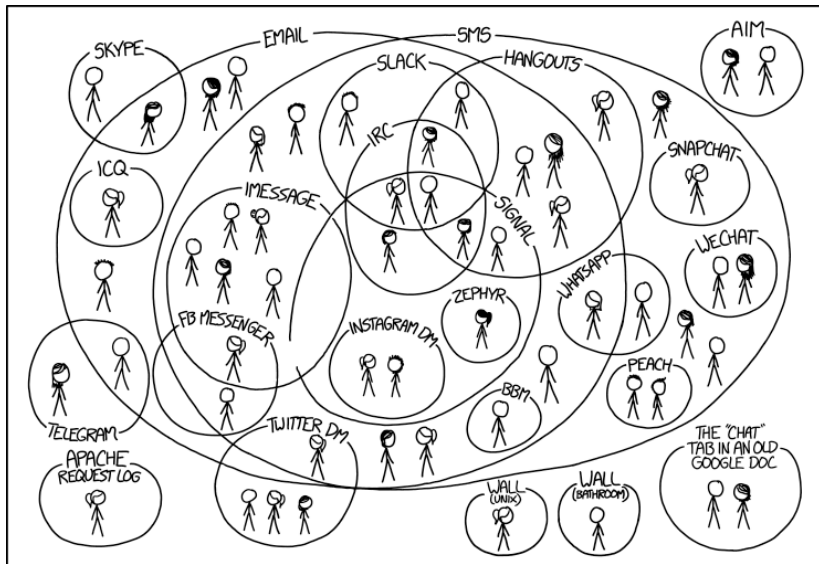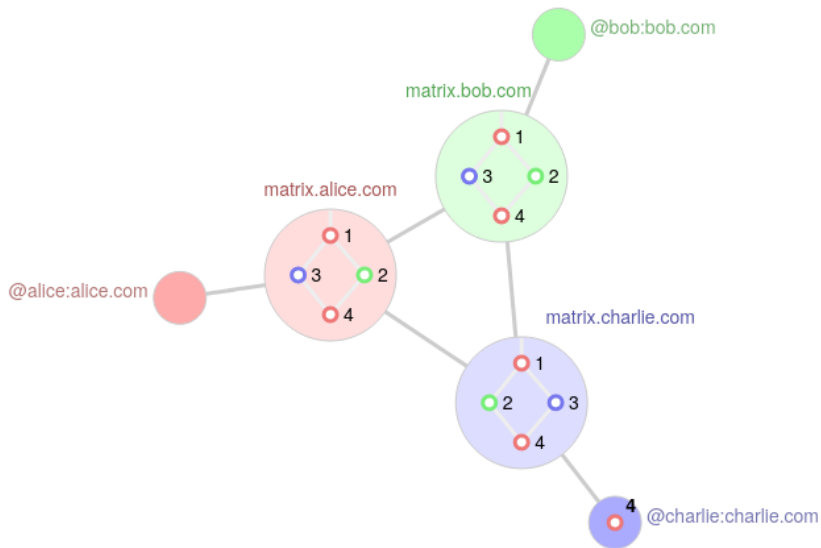`http://laas.fr/~gsaurel/talks/matrix.pdf`

Under License

I HAVE A HARD TIME KEEPING TRACK OF WHICH CONTACTS USE WHICH CHAT SYSTEMS.

xkcd 927

Overview: Decentralised event store

federation

Protocol specifications: REST API

https://matrix.org/docs/spec/

Versatile

- ▶ JSON+HTTP
- ▶ Websockets
- ▶ CoAP+CBOR+Noise+Flate+UDP

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Complete

- ▶ Client-Server
- ▶ Server-Server
- ▶ Application Service
- ▶ Identity Service
- ▶ Push Gateway

"Modern" Client

- images (GIFs)
- reactions
- edits
- quotes / replies
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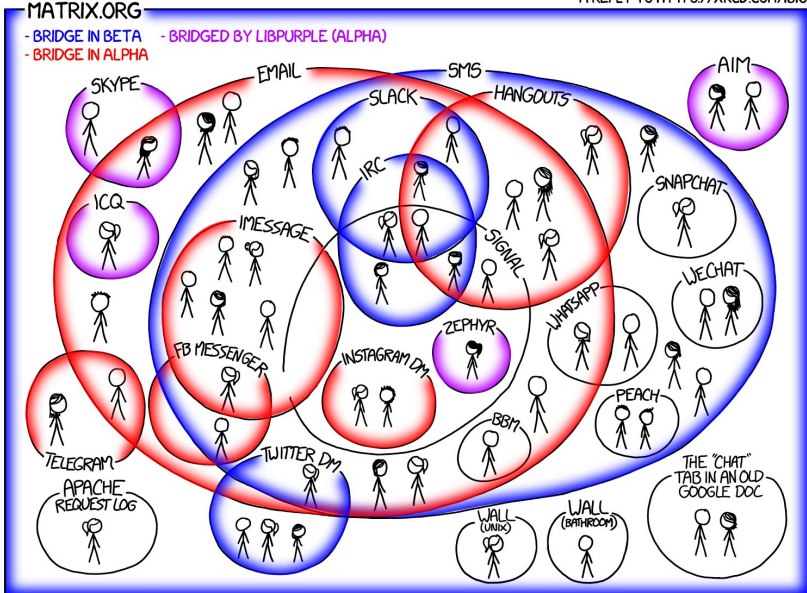
- Voice / Video over IP
- widgets (etherpad !)
- bots

Rich ecosystem

https://matrix.org/docs/projects/try-matrix-now :

- ▶ 33 Clients (flagships: Riot web / Android / iOS / electron)
- ▶ 6 servers (flagships: Synapse, Dendrite)
- ▶ 24 SDK
- ▶ 22 bots
- ▶ 25 bridges (flagships: IRC, Slack, Gitter)

Situation

Terminology / syntax

- Homeserver: `laas.fr`
- Matrix User ID (MXID): `@gsaurel:laas.fr`
- Rooms: `!MfzSCriMotGsxDuBxJ:laas.fr`
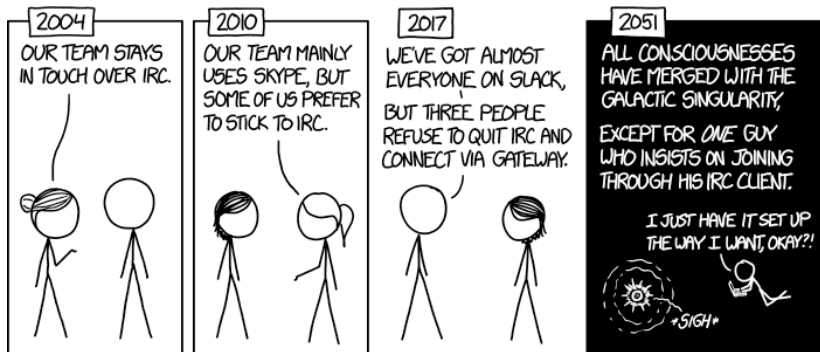- Aliases: `#test:laas.fr`
- Communities: `+gepetto:laas.fr`

Setup

- Synapse
  - source (python)
  - distributions
  - docker
- Riot
  - extract source in apache / nginx
- etherpad
- jitsi
- coturn

Federation:

```
$ dig SRV _matrix._tcp.laas.fr
[…] 8448 achgabat.laas.fr.

$ curl https://tetaneutral.net/\
    .well-known/matrix/server
{"m.server": "matrix.tetaneutral.net:443"}
```

Conclusion

xkcd 1782