IMAP, JMAP and the future of email standards

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DISCLAIMER

- This talk and the protocols covered are for client / server email only

- I do NOT address server / server SMTP

- I do NOT address end-to-end encryption

Email client/server protocols

- POP3 + pop-before-SMTP

- IMAP4 + extensions + SMTP
  - Including vendor-specific extensions
  - + CalDAV/CardDAV or LDAP

- Microsoft protocols (EAS, Activesync, OWA)

- Gmail app proprietary + rest API

- InboxApp / Nilas and other custom protocols

JMAP: a modern, open alternative

- One protocol for Email, Submission, Calendar, Contacts, etc

- Evolved from FastMail's vendor-specific API

- Informed by experience with IMAP QRESYNC and *DAV sync-collection

FastMail protocol simplified

- Always wanted to do an open standard rather than yet another walled garden proprietary API

- Originally self published

- Clear that it was a popular idea, but needed IETF RFC status for better adoption

Internet Engineering Task Force

- IETF has been meeting for 34 years

- Custodians of the standards of the internet

- Fantastic resource for anybody working on a protocol

- Many improvements to JMAP via IETF group

  – Both simpler and more powerful!

Standards: foundations of software

- Best things happen at the boundary between freedom and constraints

- Standards constrain software so it can communicate with the rest of the world

  - Great basis for a test suite too!

- Good standards last much longer than software, worth taking the time to get it right!

EXTRA: improving IMAP

- JMAP – glorious future / IMAP – protocol of now

- One of the most prolific working groups at IETF

- Collected up unpublished extensions and ideas

- Work from AOL/Verizon, Isode, Huawei, Oracle, Dovecot/Open-Exchange and of couse FastMail!

- Makes IMAP more useful for everybody

EXTRA and JMAP together

- My very own spec: OBJECTID RFC8474
  - Maps to existing Gmail extension for X-GM-THRID and X-GM-MSGID
  - Unique identifers to match JMAP emailId
- IMAP4rev2 work underway

You can get involved!

- IETF is a great place to bring work
  - Even if you don't have a new protocol proposal, adding your expertise to ongoing discussions helps

- We were sceptical at first, but IETF has been very welcoming

- Access to deep expertise in writing long-lived documents is super valuable

- Conferences cost, but mailing lists and remote participation are free

Summary, where we're at

- IMAP extensions

- JMAP

- Next IETF is in Prague, March 23-29 (weekend is a hackathon)

- CalConnect in Zurich next week!

- https://jmap.io - see who's using it, learn how

Play with JMAP now!

- https://github.com/cyrusimap/cyrus-imapd/

  – master branch has very complete support

- https://www.fastmail.com/

  – free trial account, play with JMAP via the web, and IMAP extensions via `imap.fastmail.com` direct to Cyrus.

- https://proxy.jmap.io/

  – note: currently outdated, but I'm working on it!

Thank you!

- https://jmap.io/
- https://www.fastmail.com/ & https://www.topicbox.com/
- https://www.cyrusimap.org/ (open source server)
- https://datatracker.ietf.org/group/jmap/about/
- https://datatracker.ietf.org/group/extra/about/
- https://www.ietf.org/newcomers.html