IMAP, JMAP and the future of email standards

Bron Gondwana <brong@fastmailteam.com>
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- Collected up unpublished extensions and ideas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 course 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 identifiers 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/](https://github.com/cyrusimap/cyrus-imapd/)
  - master branch has very complete support
- [https://www.fastmail.com/](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/](https://proxy.jmap.io/)
  - note: currently outdated, but I’m working on it!
Thank you!

- https://jmap.io/
- 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