Thunderbird

A short story of supporting Microsoft Exchange in Thunderbird
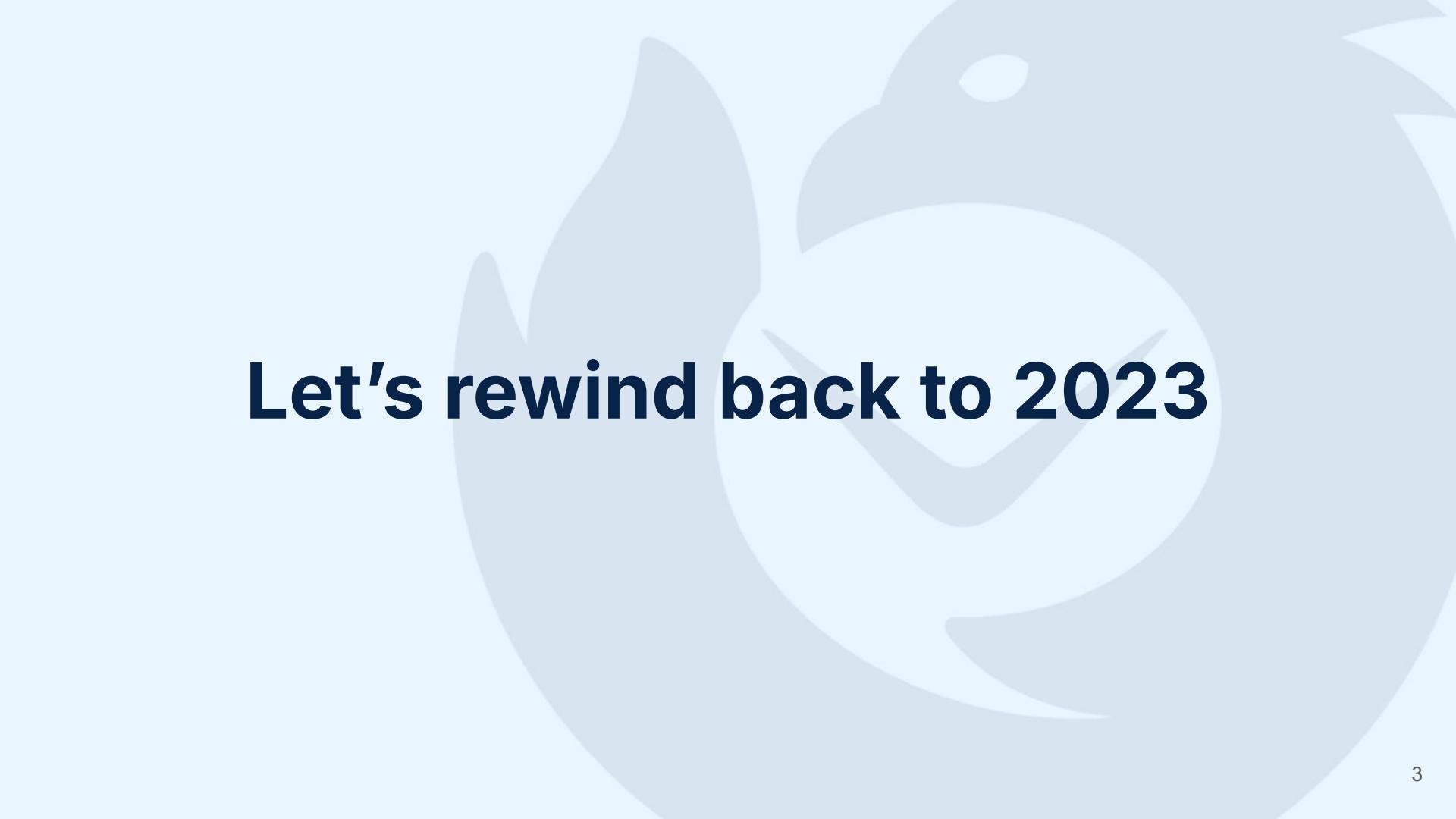
The short story of a not-so-short project

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about:me

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Let's rewind back to 2023

Microsoft Exchange

- Back-end for (some) Microsoft productivity tools

    - Email, calendar, contacts...

- Can be used with open standards (IMAP/POP/SMTP)

- Corporate environments usually locked down

    - Only proprietary Microsoft APIs are available

- High demand for supporting those APIs (and we want to do it)

Picking the right API

- Multiple APIs for talking to Exchange servers

  - ActiveSync, EWS, Graph...

- Settled on EWS (Exchange Web Services)

  - Existing FOSS implementations for reference (Evolution)

  - Notifications support more fitting for a desktop application

  - Supported by both on-premises servers and Microsoft 365

    - EOL for MS 365 in Oct. 2026, but!

Next question:

How do we support a protocol in Thunderbird?

Supporting a new protocol

- Existing email protocol support has been around for a while

  - POP3 and IMAP support came in Netscape Mail 2.0 in 1993 (thanks Ben!)

  - Loss of historical knowledge

- Trying to define how to support a new protocol in a modern way

  - Rust ⇒ memory safety, rich ecosystem, Firefox support...

  - Reusable components

Building a reusable base

- Generic code infrastructure components

  - Compatibility with C++ asynchronous operations, utility for building idiomatic HTTP requests...

  - See our FOSDEM 2024 talk to learn more about this

- Introducing reusable feature-oriented components

  - Balancing future-planning and feature work progress

Feature work

- This took longer than we expected

    - From 6 months to 2 years

    - Loss of historical knowledge

        - Understanding how each feature works in Thunderbird

    - Expectations made at the start of the project not holding up

Now what?

- Thunderbird supports EWS for email 🎉

- Current focuses:

  - Polishing and squashing the remaining bugs

  - Implementing support for the Microsoft Graph API (MS 365)

    - Reuses a lot of code that was introduced for EWS

- After that:

  - Calendar and address book support

  - ... JMAP?

Thank you!