# MAY 2021 DEMO DAY

May 20th, 2021

WHAT IS FISSION?

- For users, Fission apps keep your data secure and personally accessible — your data, available everywhere, and inter-linked automatically

- For developers, build full edge apps with portable identity, encryption, data, and offline capability

  - Add the webnative SDK to your front end framework of choice

  - Easy publishing on our platform, or host anywhere you like

Application ✨

Browser 🖥️

Fission ⚛️

Developer 👷‍♀️

User Accounts

Data

Publishing
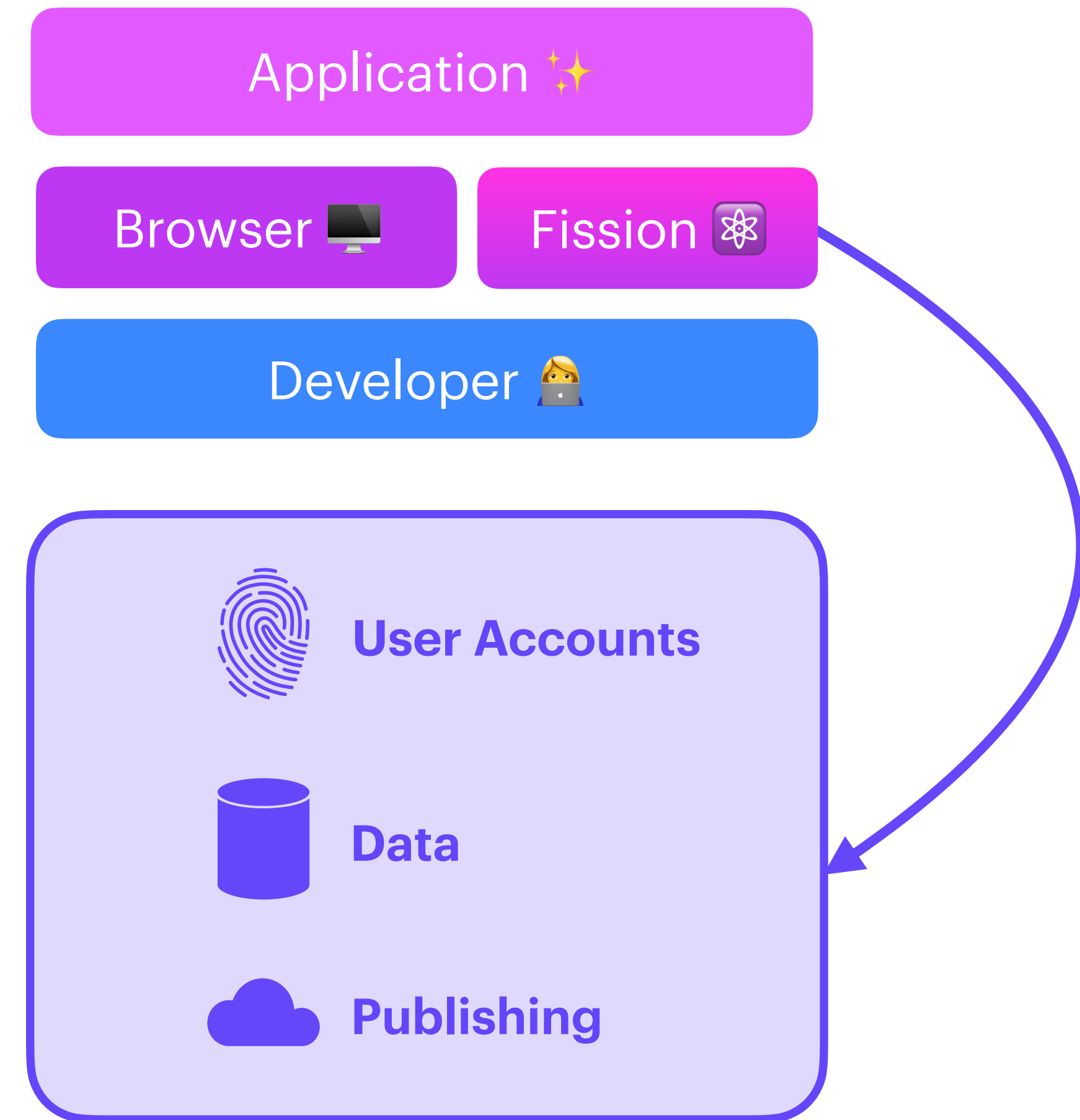
IPFS COMMONS NETWORK

- Data available as a "content address" — not tied to a server, anyone can help host content

- Fission's WebNative File System (WNFS) adds private, encrypted files and a permission model

- Personal data store: data that you care about! App data, files, and more.

- Accessible from any web browser, including mobile
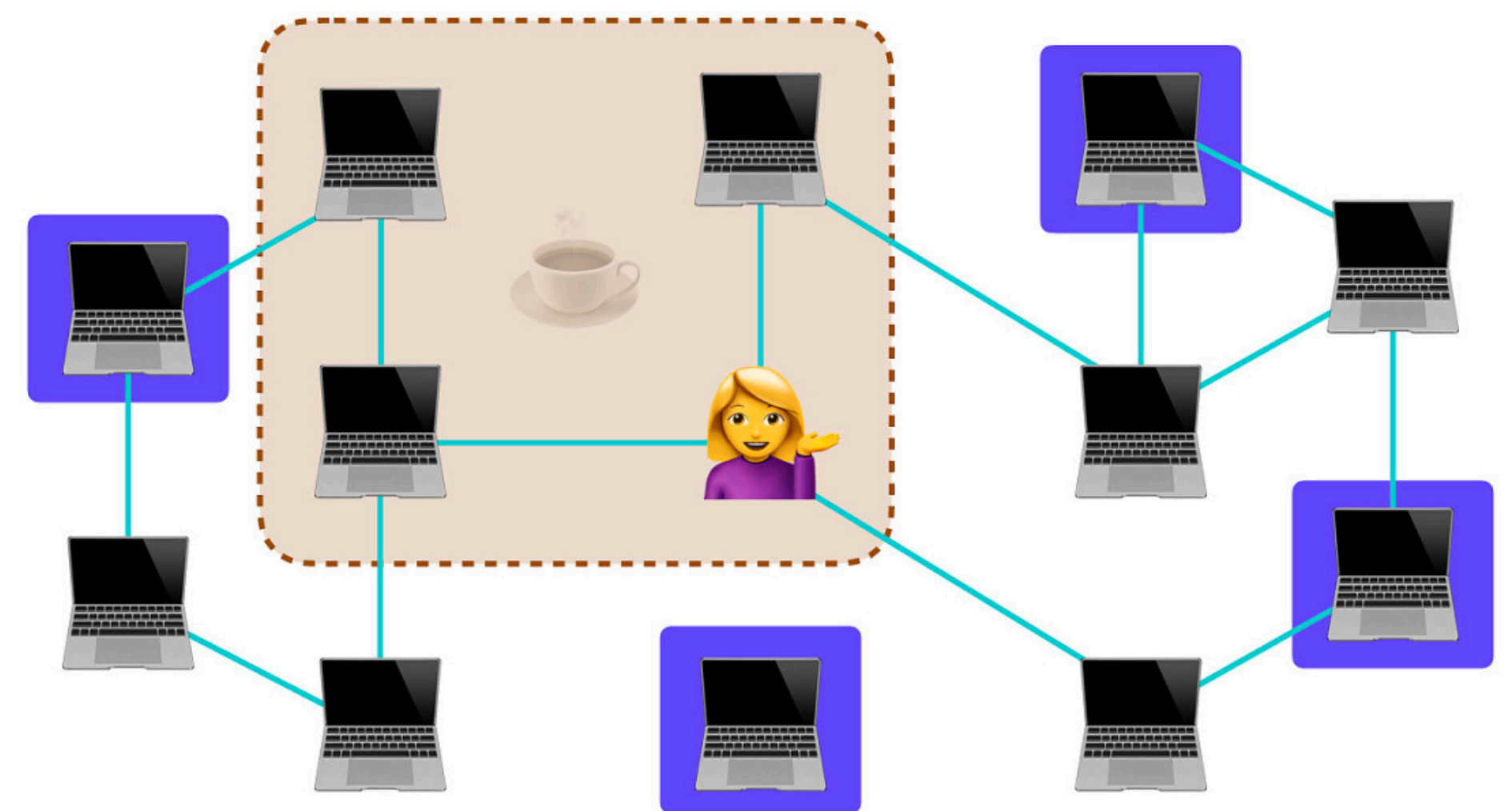
MEET THE TEAM

- New!

  - Jeff 🇨🇦 @midijeffg

    - Head of Product
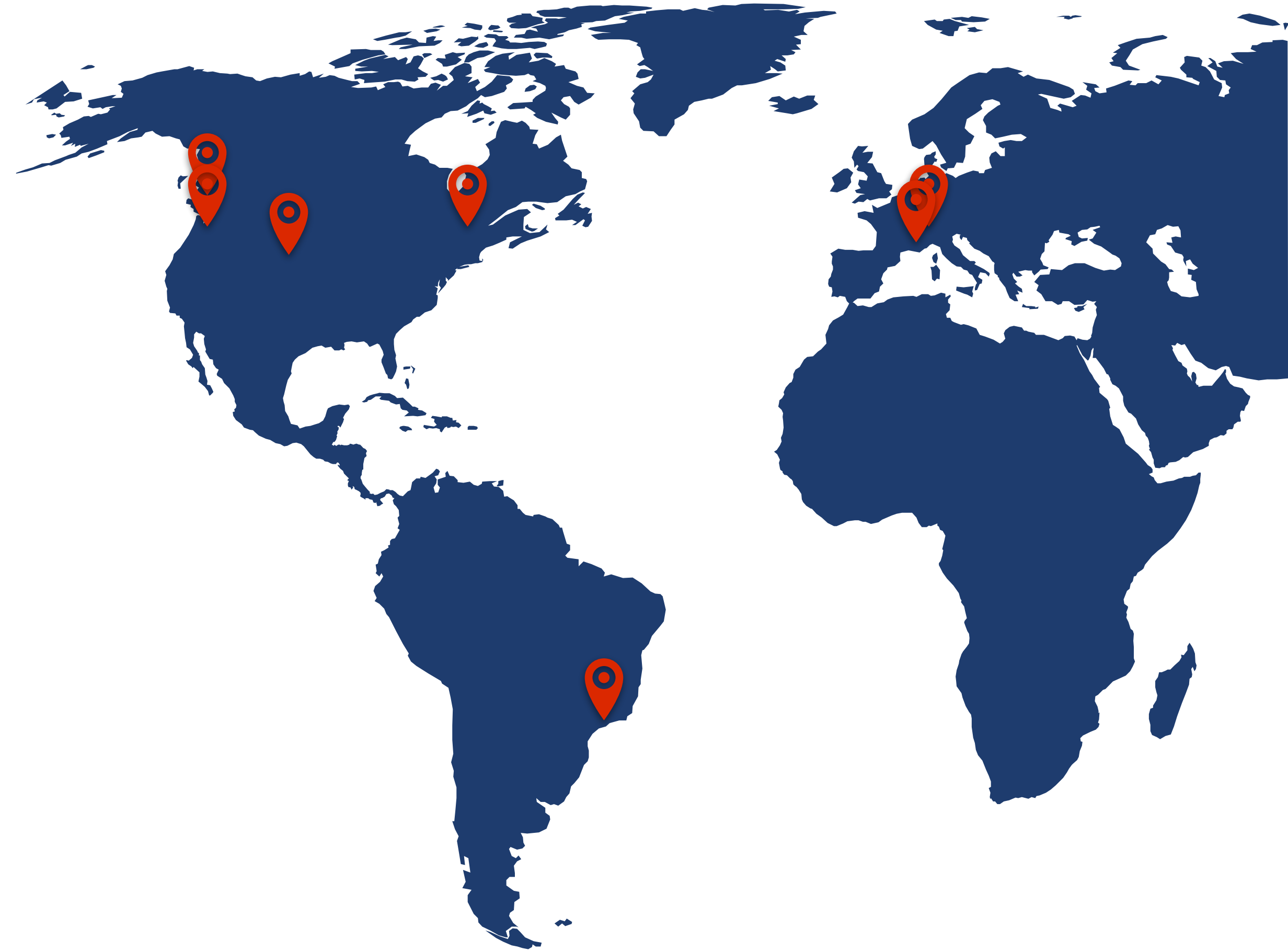
Distributed team growing globally, company is Canadian and HQ is in Vancouver.

![fission](fission logo)

DECENTRALIZED IDENTITY FOUNDATION

- Fission is now an Associate Member of the DIF
  https://identity.foundation

- Fission accounts have been based on
  Decentralized IDs (DIDs) from the beginning

- Working with the secure data storage / personal
  data store working group

  - IPFS has been chosen as a building block,
    defining standards and interfaces on top

DID INTEROPERABILITY

- Goal: accept DIDs from other systems —
bring your own identity!

- We will be adding DID support to the Fission
server

  - Targeting Microsoft ION network as first
  interop target

  - Looking to connect with developers to do
  sample interop flows with other types of
  DIDs

ION is an open, public, permissionless
Layer 2 Decentralized Identifier network
that runs atop the Bitcoin blockchain

![fission logo] **fission**

TIDDLYWIKI DEMO

- Jeremy Ruston @Jermolene, Creator of TiddlyWiki

- Run TiddlyWiki on Fission

  - https://tiddlywiki.fission.app

- Upload existing TiddlyWiki's through Drive

  - https://drive.fission.codes

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UPLOAD IMAGES, ASSETS TIDDLYWIKI PLUGIN

- Support the initial development of a webnative plugin for image, pdf, and other file uploads. The plugin stores uploads in your webnative file system on IPFS.

- Contribute on OpenCollective https://opencollective.com/tiddlywiki-on-fission

- Get in touch if you want to develop the plugin!

VSCODE FISSION PLUGIN

- Presented by: Brian

- Run common CLI commands around app registration and publishing from within VS Code

- VS Code Marketplace: https://marketplace.visualstudio.com/items?itemName=fissioncodes.fission

- Github: https://github.com/fission-suite/fission-vscode

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ACCOUNT BACKUP WORK-IN-PROGRESS

- Presented by: Philipp

- Fission accounts are controlled by private keys that we don't have access to

- In order to not lose access to your encrypted files, we're working on account backup & recovery

- For now, link your desktop with the CLI so you can easily re-link new browser devices

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EVENTS

- May 27th: Tools for Thought Interchange: atJSON with Blaine from Conde Nast, Jeremy from TiddlyWiki, Gordon from Subconscious

- May 28th: Book Club: Tim Wu, Master Switch

- June 3rd: Tools for Thought Part 2: Standoff Editors with Iian from Codex

![fission logo]
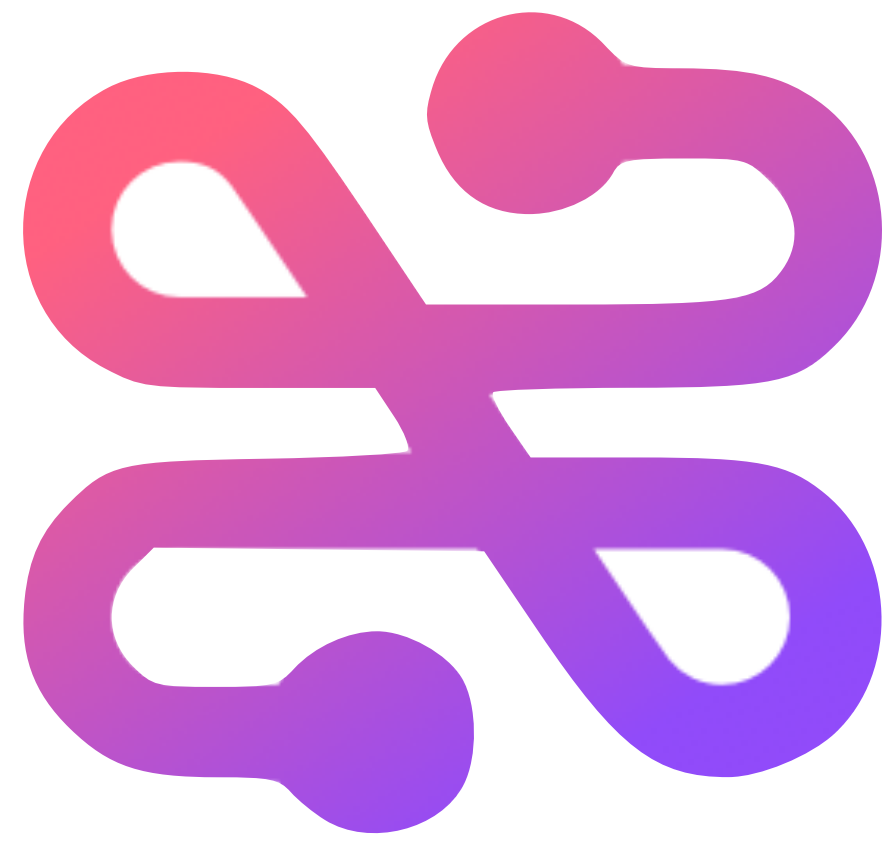
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THANK YOU!

Github: fission-suite

Developer Guide & Docs:
guide.fission.codes

Technical Whitepaper:
whitepaper.fission.codes 🚧 👷‍♀️✍️

Home page: fission.codes

Discourse forum: talk.fission.codes

Discord chat: fission.codes/discord

Twitter: @fissioncodes

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BORIS ON TIDDLYWIKI

- Tiddly Groceries https://boris.files.fission.name/p/twgroceries/

- Drift Notes https://boris.files.fission.name/p/tiddlywiki/drift.html

- TiddlyWiki on Fission https://boris.files.fission.name/p/tiddlywiki/twof.html

- Fission Edition https://boris.files.fission.name/p/tiddlywiki/fission-edition.html
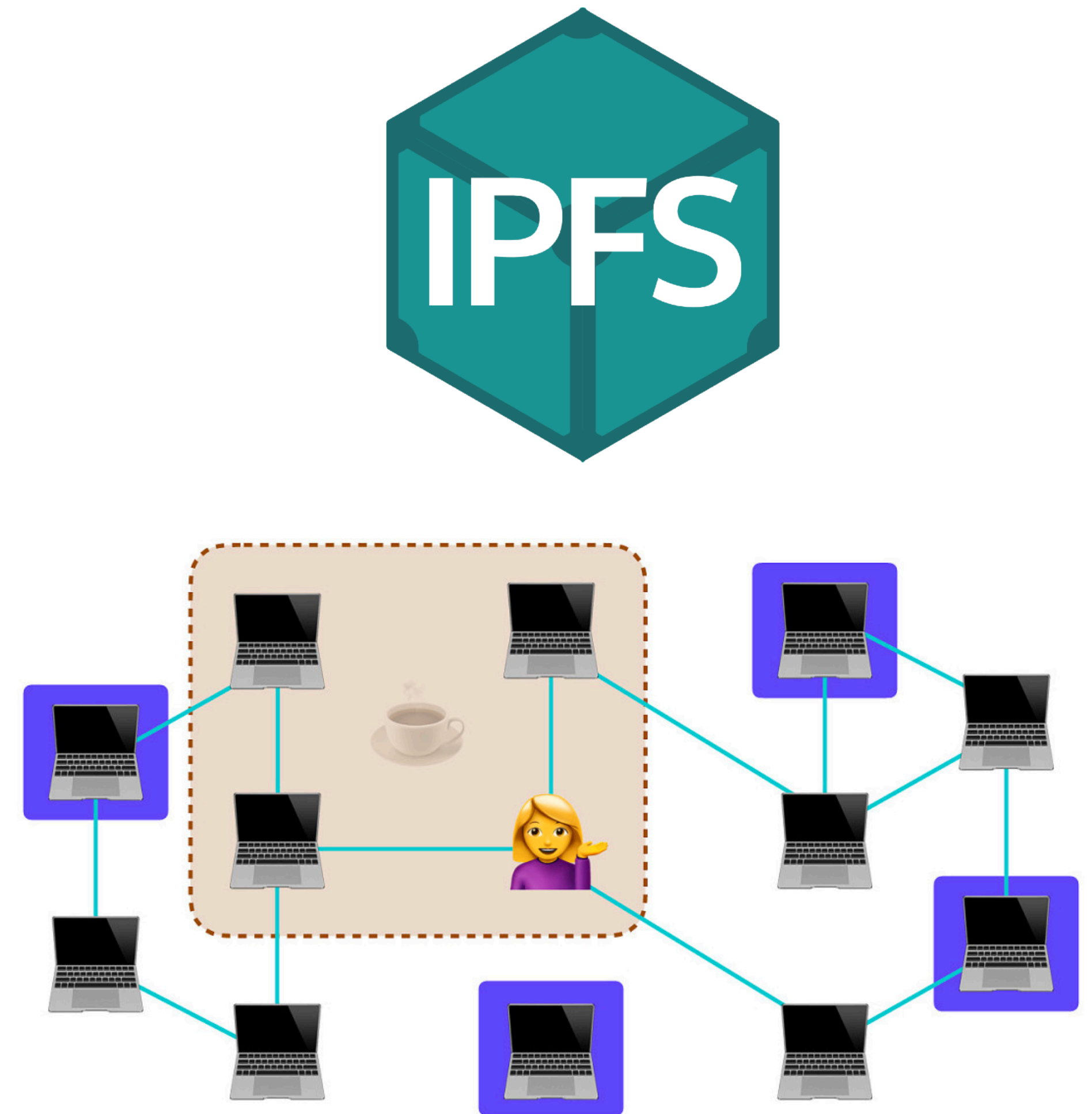
WHAT IS FISSION?

- Fission is building a client side edge stack with identity & auth, user owned data, and a distributed file system on top of IPFS

  - Standardize and integrate "hard" things like privacy, security, sync & more

  - Individuals and teams can focus on full featured apps that act like desktop or mobile, including offline

- We've built our App Publishing Platform to showcase how things can be built in an integrated way

  - Sign up on the web, publish directly

  - Use the CLI, build locally, or Github Action to Publish

  - Subdomain, SSL, custom domains

- And: run our platform as a Constellation — developer platform in a box

Application ✨

Browser 🖥️   Fission ⚛️

Developer 👷‍♀️

User Accounts

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Publishing
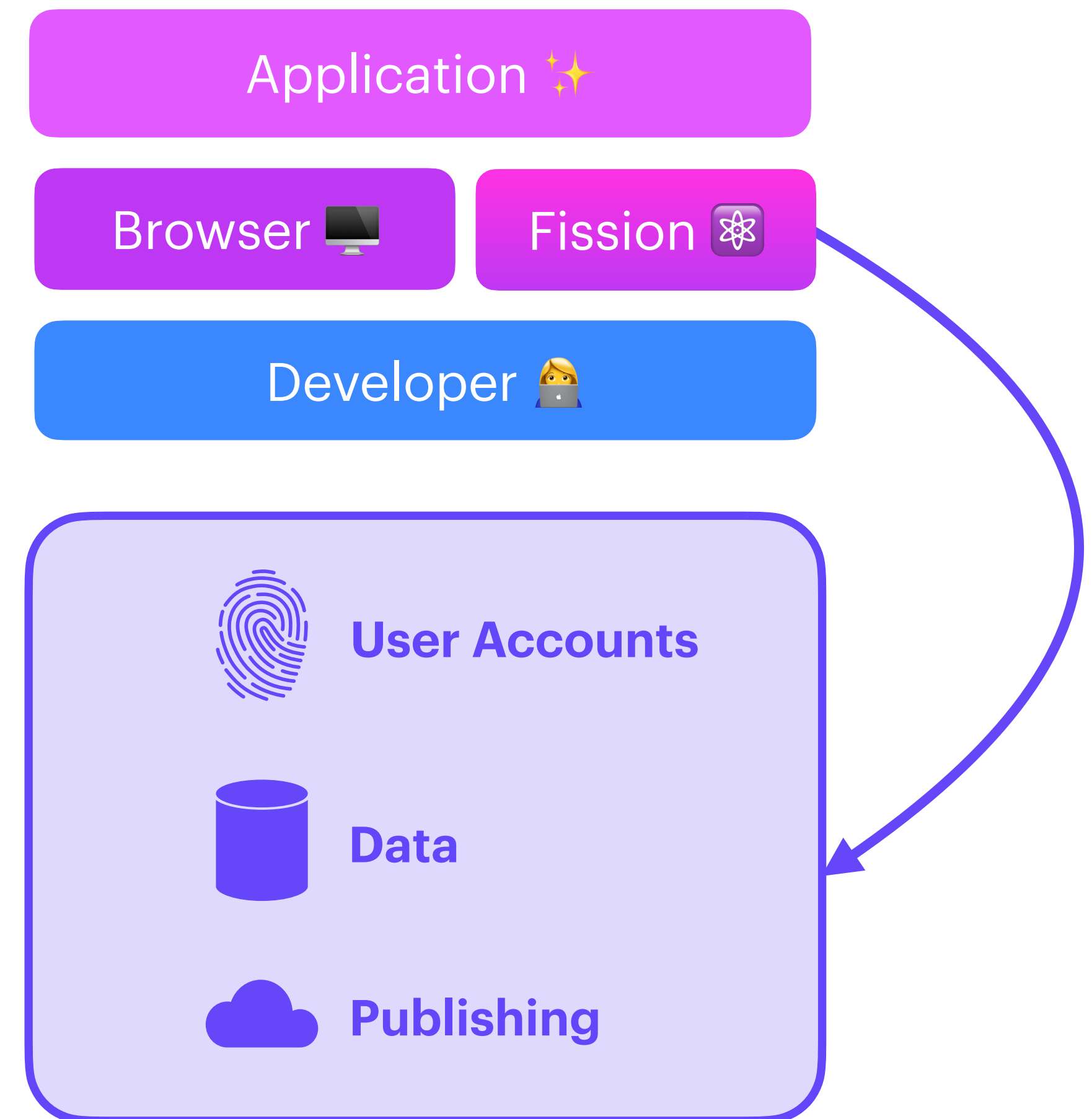
WHAT IS IPFS?

- InterPlanetary File System = IPFS

- A global "Commons Network" — anyone can help host it peer-to-peer: run a server on your desktop, a RPi, or in the cloud

- Files don't have locations — they have content addresses, or content "IDs" == CID

- Works like BitTorrent plus Git — every directory & file broken into smaller blocks, all with CIDs, anyone can stream blocks to the file requester

- Find out more: ProtoSchool https://proto.school/

![fission]

HOW DOES FISSION USE IPFS?

- IPFS content addressing is extremely important for us

  - Portable data, not tied to any app or service

- Webnative API helps run IPFS in the browser

  - Data is synced to your browser, and published out natively over IPFS

- Web Native File System (WNFS) built on top as a public + private/encrypted file system

  - Working on WNDB: potential for a global linked database
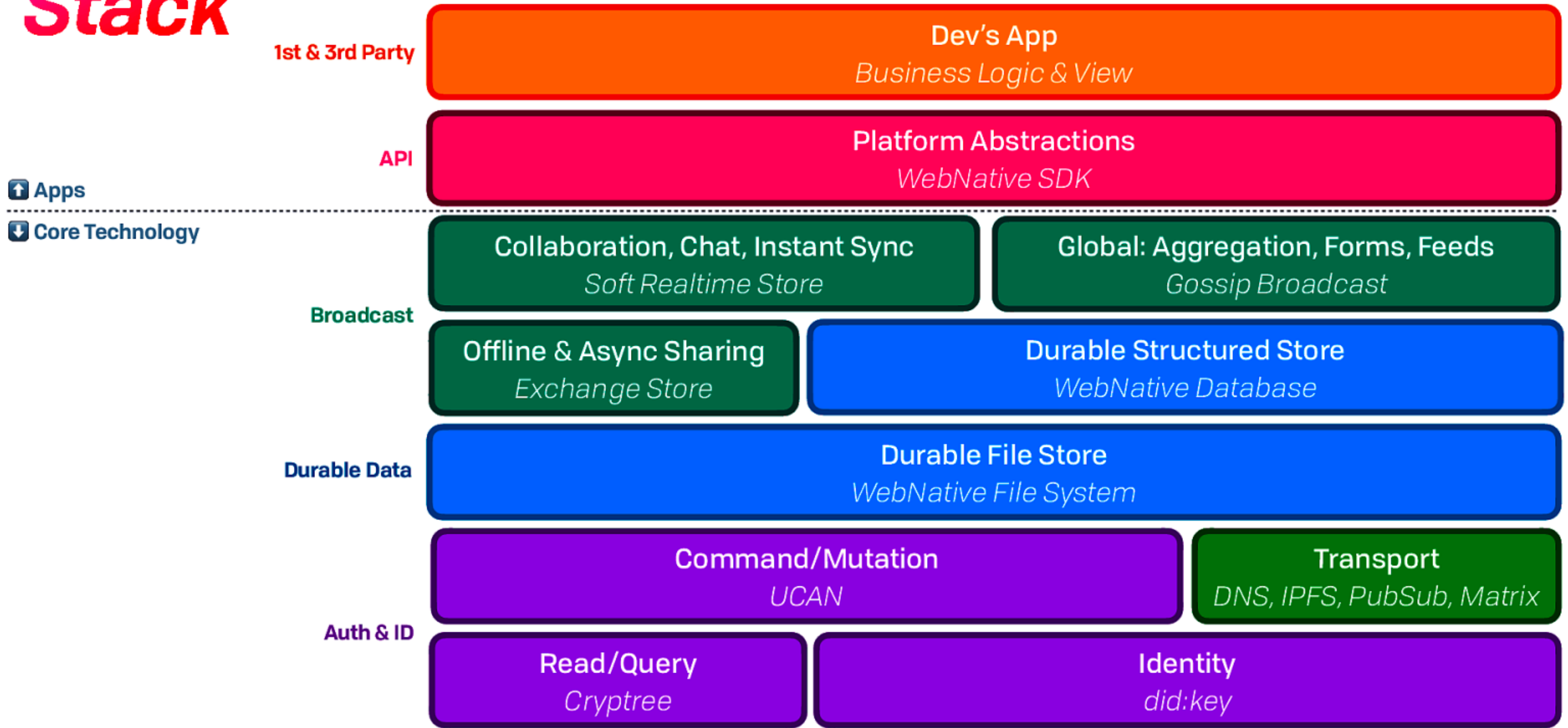
- We want to make IPFS _boring_

FISSION SYSTEM DIAGRAM

- Fission Web API (Haskell)

- Auth Lobby Web App (Elm)

- Fission CLI (Haskell)

- Drive Web App (Elm)

- Integrations, eg. Publish action on Github, Heroku Add-On, etc.

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WebNative 🚀
Stack

1st & 3rd Party

Dev's App
Business Logic & View

API

Platform Abstractions
WebNative SDK

⬆ **Apps**

⬇ **Core Technology**

Collaboration, Chat, Instant Sync
Soft Realtime Store

Global: Aggregation, Forms, Feeds
Gossip Broadcast

Broadcast

Offline & Async Sharing
Exchange Store

Durable Structured Store
WebNative Database

Durable Data

Durable File Store
WebNative File System

Command/Mutation
UCAN

Transport
DNS, IPFS, PubSub, Matrix

Auth & ID

Read/Query
Cryptree

Identity
did:key

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TECH BUILDING BLOCKS

- **IPFS:** a global "commons network" that anyone can participate in to share data and apps. Content addressing is awesome!

- **Browser APIs:** WebCrypto, PWAs and other browser features integrated so they are easy to integrate and include in your app

- **Decentralized Identifiers (DIDs):** portable accounts that can be user owned, plus Verifiable Credentials for data linked to accounts

- **UCAN:** a decentralized authentication specification

- **WNFS:** our Web Native File System, public + private/encrypted

- **WNDB:** adding full database capabilities to WNFS

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EDGE IDENTITY & DATA

- Edge Identity:

  - Password-less Login

  - Decentralized Auth

  - Personal subdomain

  - Private Keys in the browser

- Edge Data:

  - End-to-End Encrypted

  - Versioning

  - Permanent "Archive" links with IPFS

  - Sync between devices