

UCAN build with IPFS

Javascript Developer Workshop



Austin: Feb 21 2023

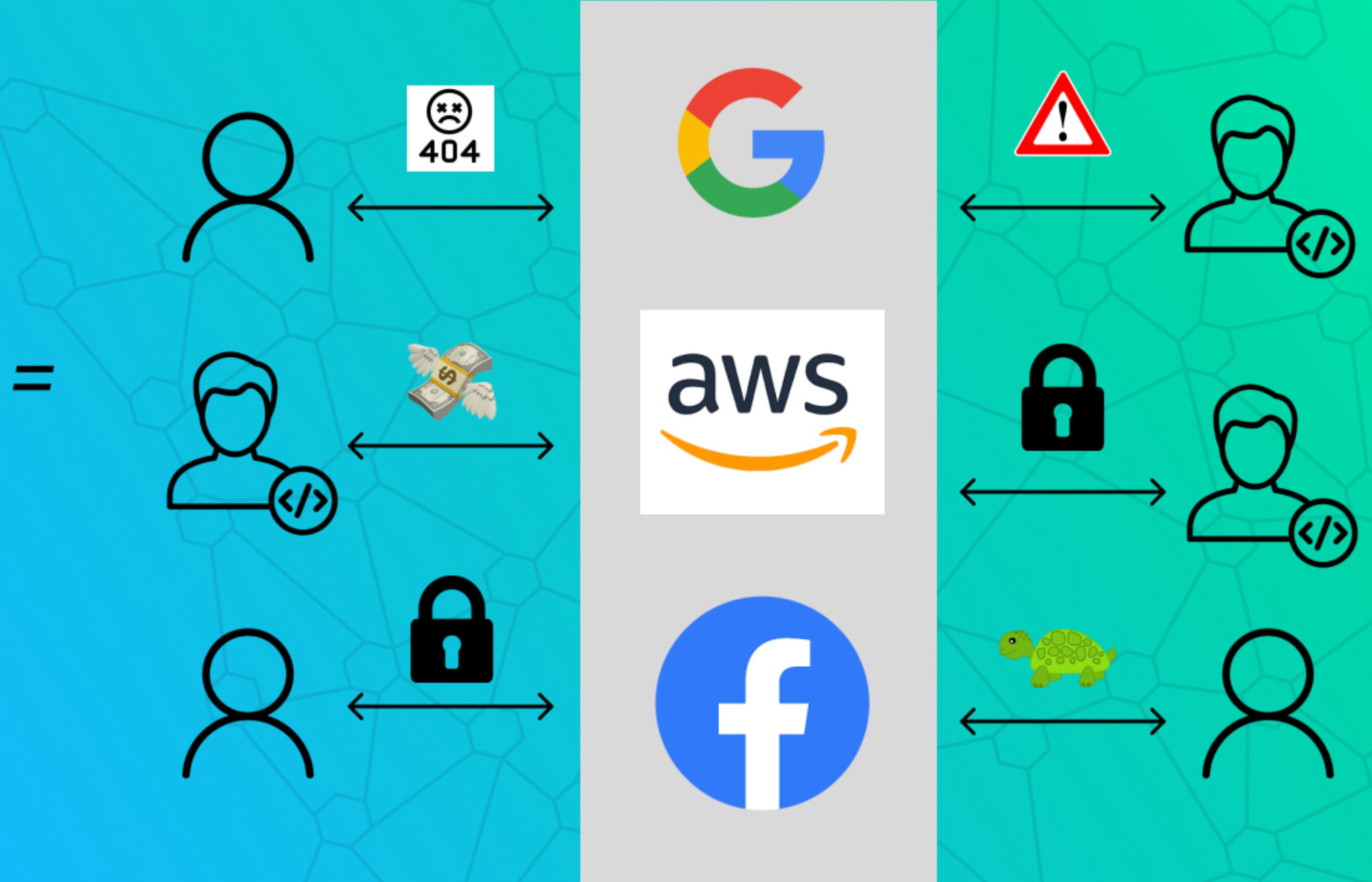


Orbit

agenda

- 1. Breakdown of some issues we face**
- 2. Solutions**
- 3. Resources for getting started**
- 4. Lets see how it actually works-**

Problem:
*Data + identity silos =
lock in, bad web
experiences*

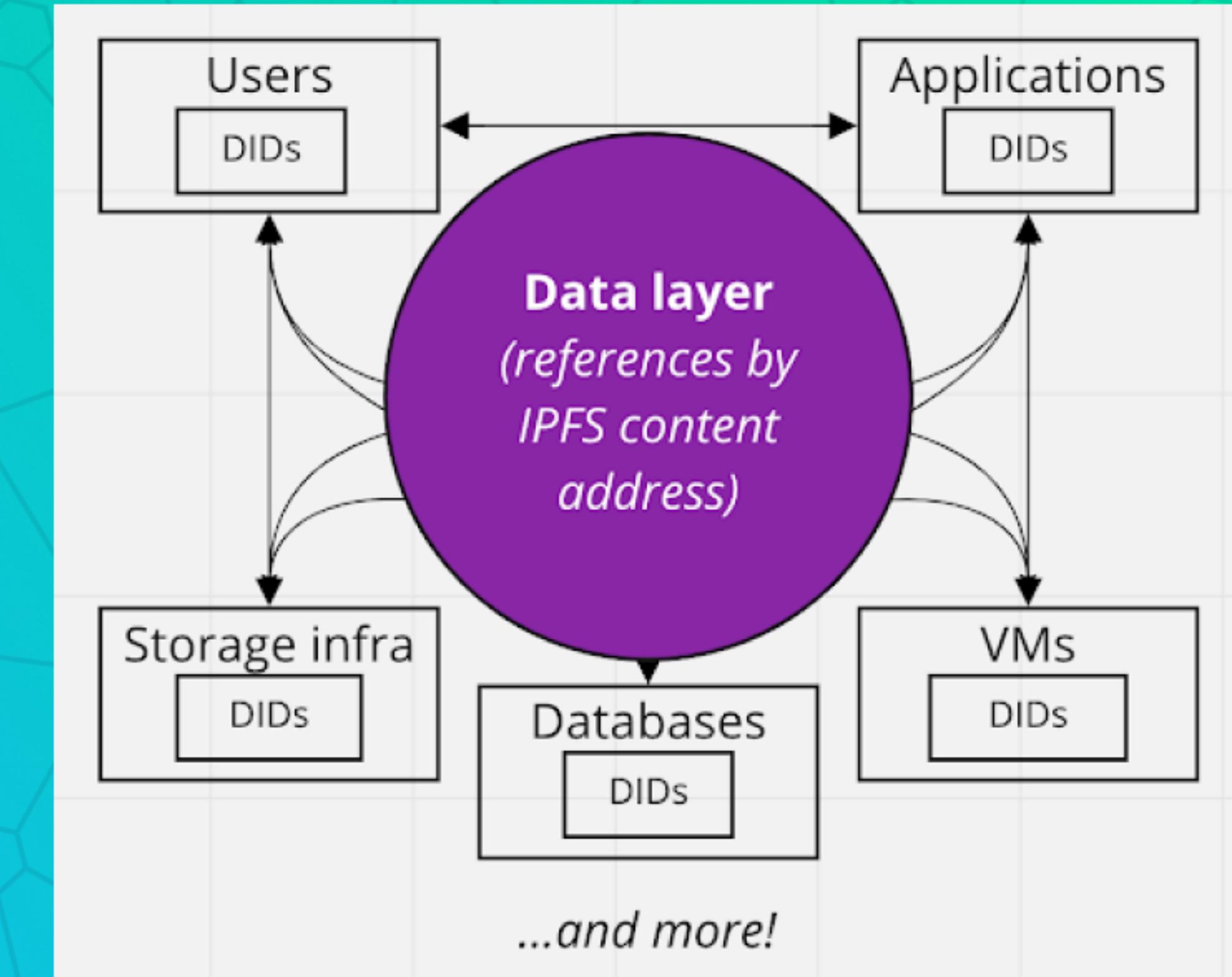


Solution:

Web3.Storage

Developer platform

By utilizing W3Storage/IPFS, things become way easier(for users and devs)!



The easiest way to get your data on the decentralized web. Data anywhere. Implement any application architecture you can dream of - user-centric, serverless, and more.



Orbit

Their **differentiator** = decentralized protocols + usability



Web3.Storage platform



w3up
Storage



w3link
CDN



w3name
Naming

- Uniquely performant and reliable
- Easy-to-use clients
- Decentralized protocols as API



Elastic IPFS

CAR files

CLI

npm



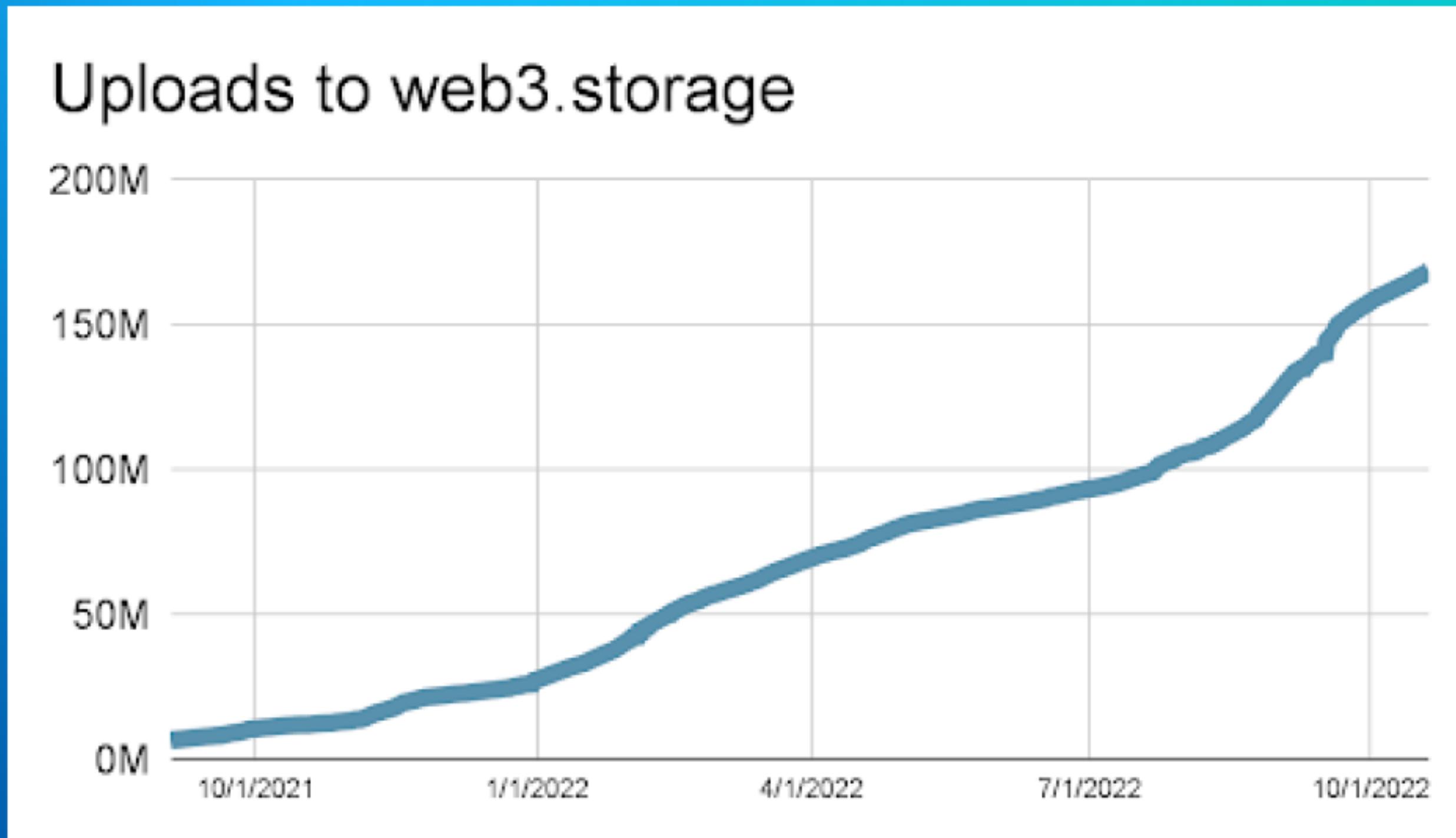
HTTP



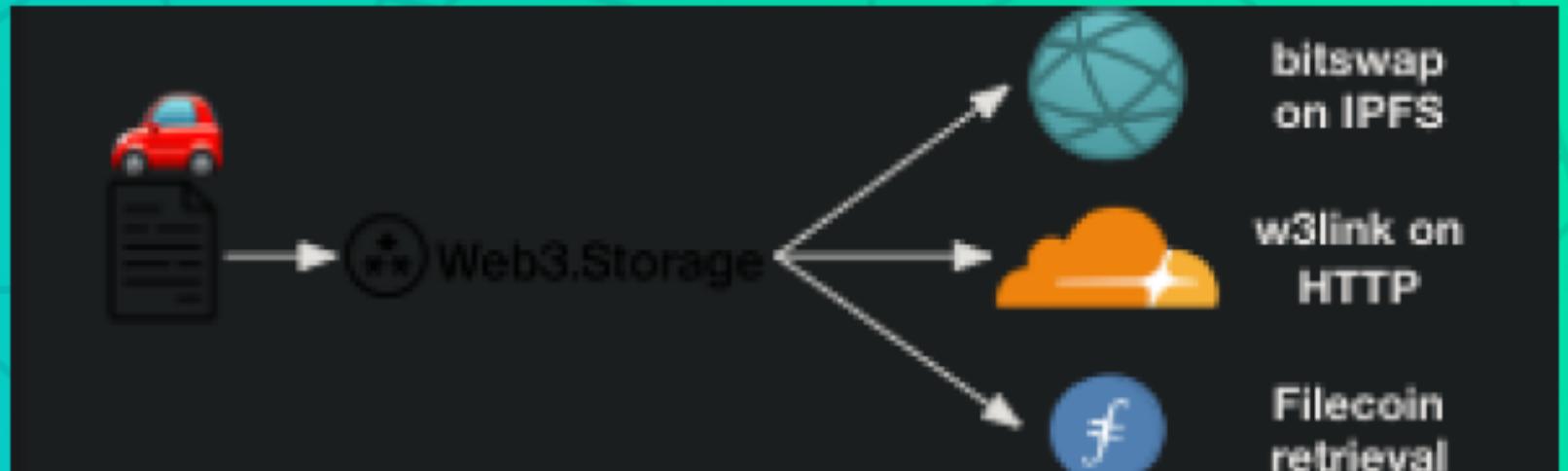
IPNS



Uploads to  Web3.Storage  30% MoM in last year



Current  began



Holaplex



OpenSea

te1a

 **Filecoin**

 **Rarible**

 **TATUM**



**PROJECT
GALAXY**

 **fleek**

 **METAPLEX**

NFTPort

 **Orbit**

Introduction

A web UCAN trust

Data anywhere: Universally Addressable

Content addressing means you can trust results fetched from anywhere – fastest always wins

CIDs are immutable and cryptographically verifiable, offering a foundation of best practices

Clean fit with fast global CDN retrieval

Serverless bazaar: Cryptographically Verifiable

**Serverless Bazaar: Verifiable all the time!
User-centric: enables new ownership models for identity, data and applications**

Open protocols:

- IPFS – peer powered data network
- DID – web of trust
- UCAN – distributed RPC capability auth

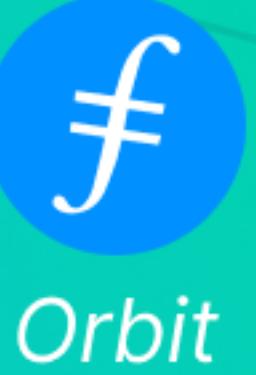


Orbit

User-centric: enables new ownership models for identity, data and applications

Open Protocols:

- IPFS - Peer powered data network
- DID - web of trust
- UCAN - distributed RPC capability authentication



The web3.storage protocol stack

Open Protocols



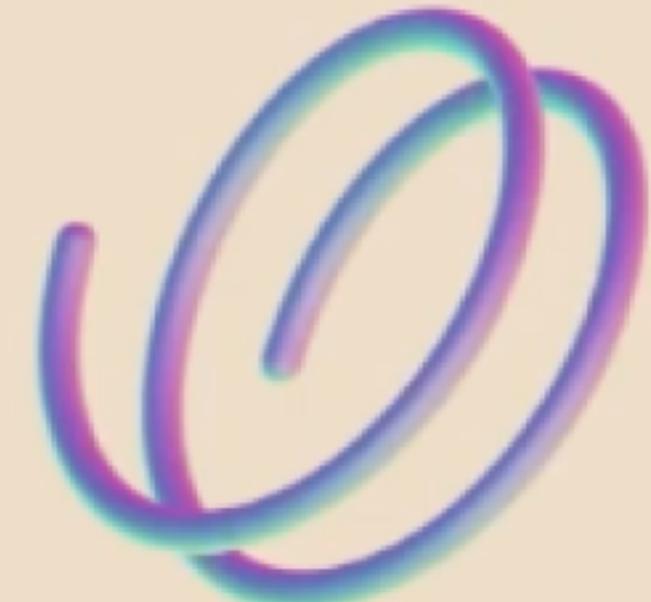
IPFS – Content addressed data (CID) - write apps against what it is, not where it is

did **DID** – Non-extractable key pairs, signed data, navigator.credentials



UCAN – Self-sovereign and delegatable authorization enables the serverless bazaar (<https://ucan.xyz>)

w3up architecture



Behind-the-scenes in the upload process:



w3up architecture



Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key

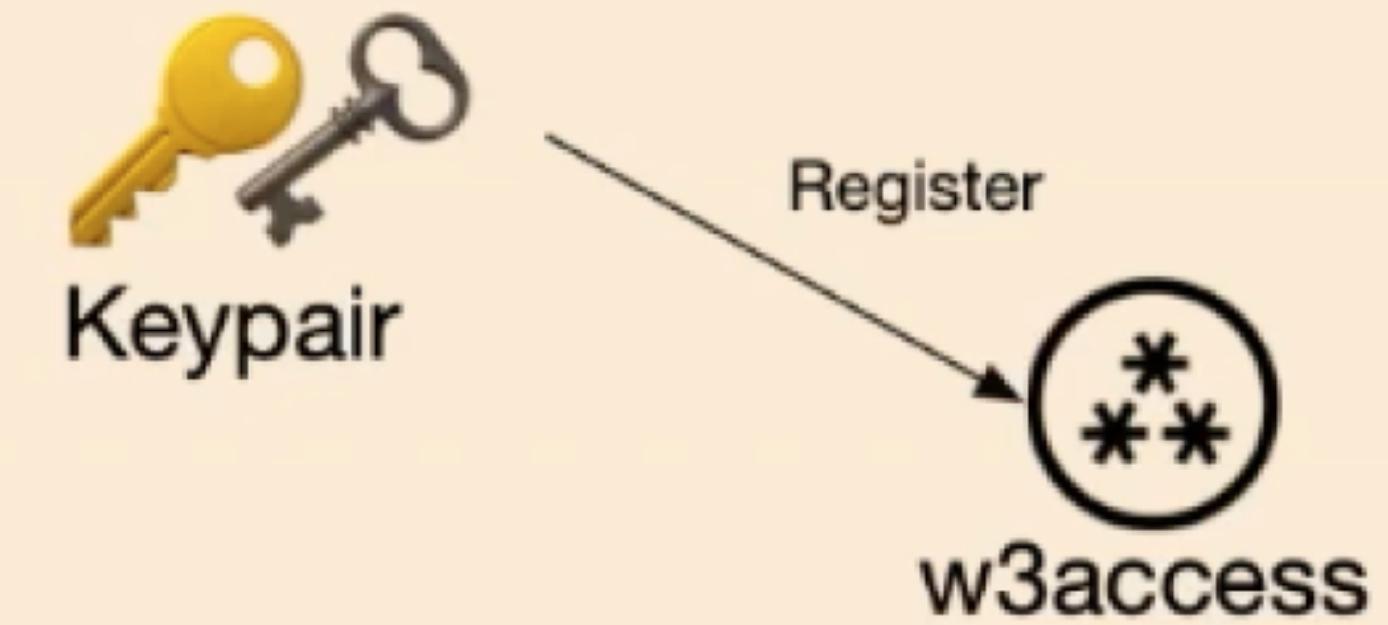


w3up architecture

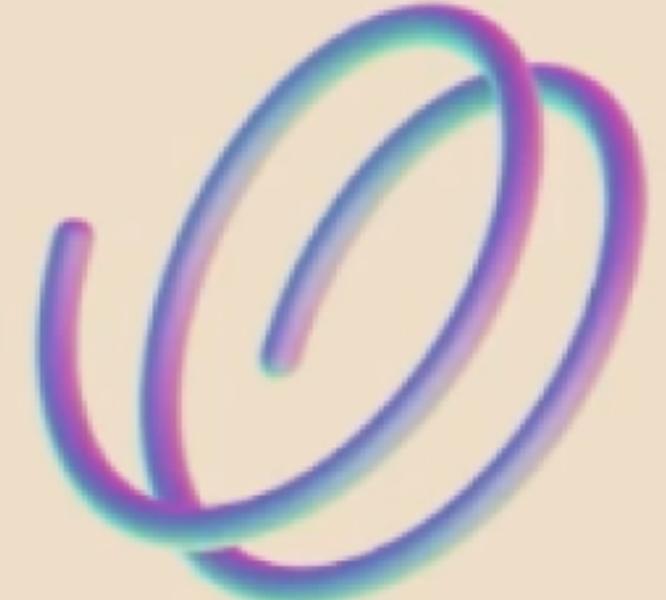


Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key
2. register UCAN key with account

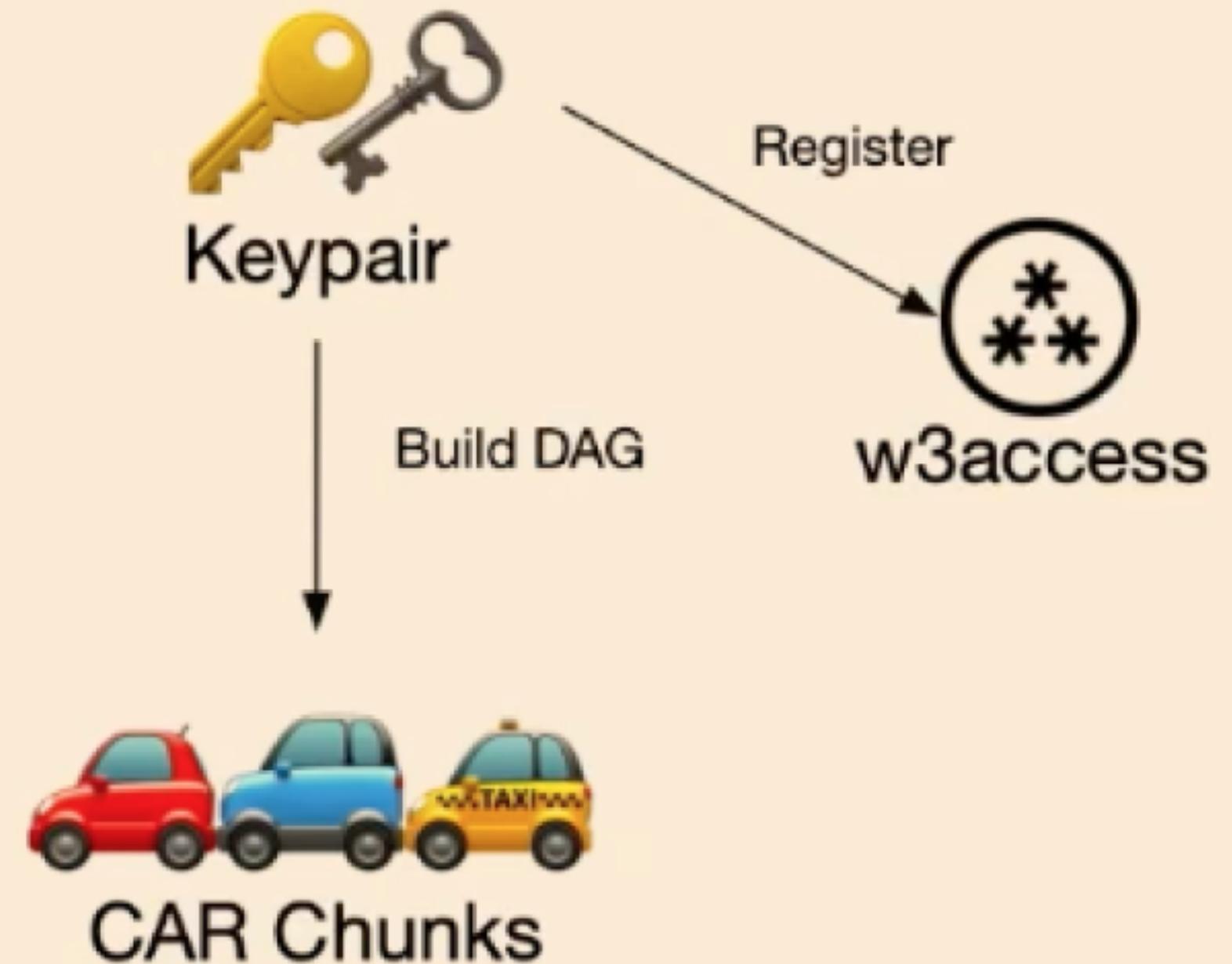


w3up architecture



Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key
2. register UCAN key with account
3. create CAR chunks for an upload

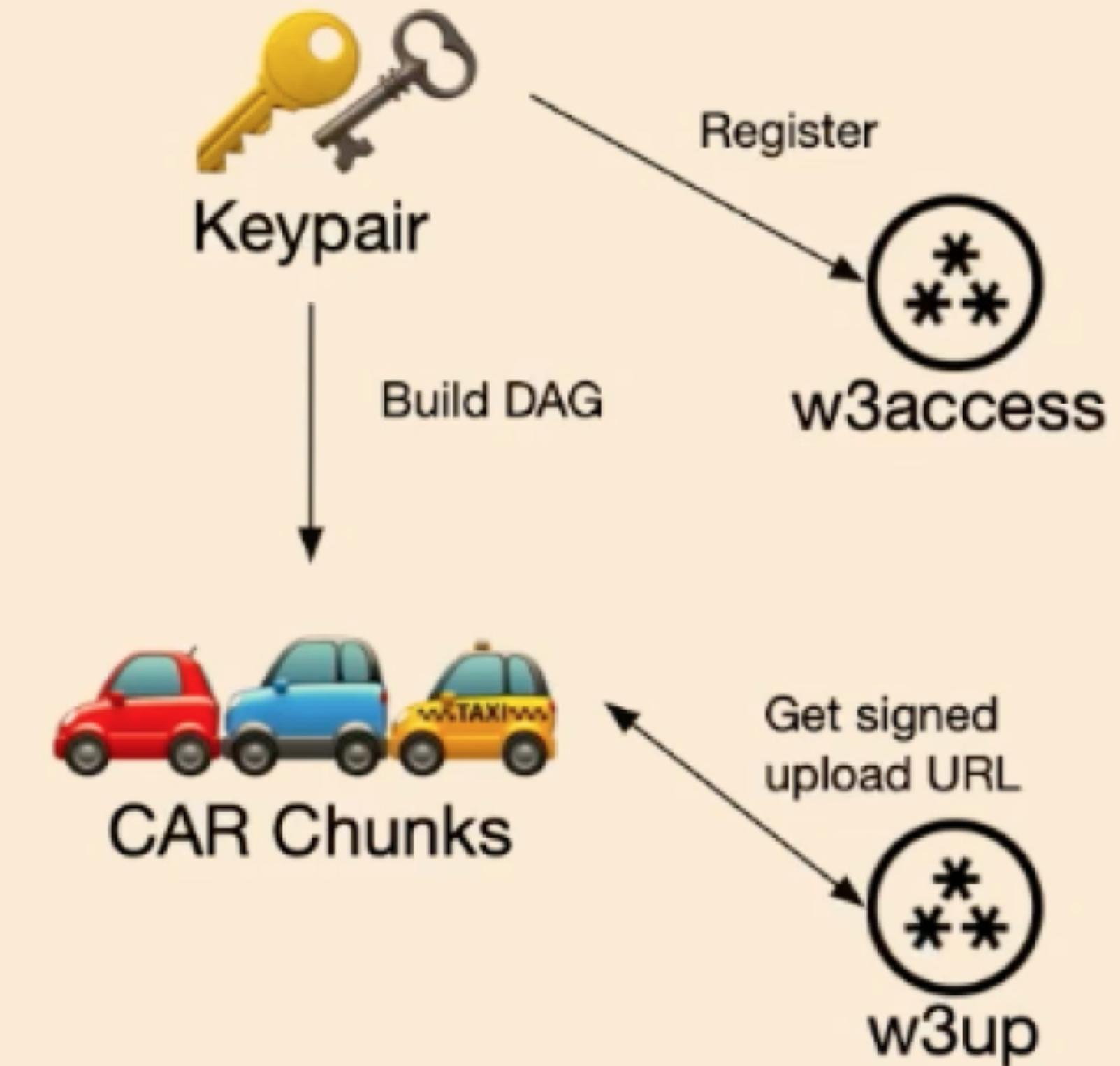


w3up architecture



Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key
2. register UCAN key with account
3. create CAR chunks for an upload
4. UCAN request PUT access for each chunk

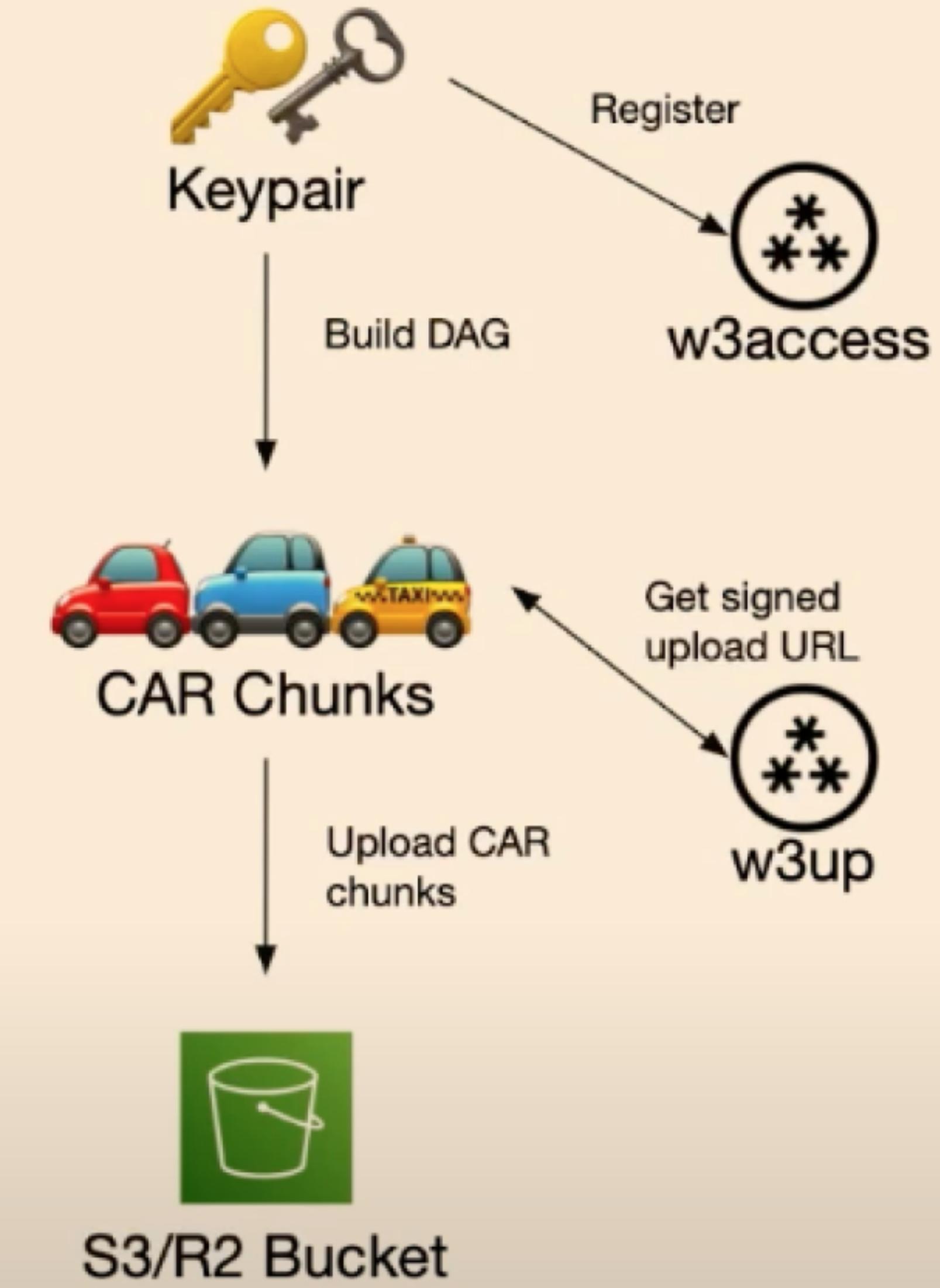


w3up architecture



Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key
2. register UCAN key with account
3. create CAR chunks for an upload
4. UCAN request PUT access for each chunk
5. upload each chunk to S3



w3up architecture



Behind-the-scenes in the upload process:

1. w3up client creates UCAN signing key
2. register UCAN key with account
3. create CAR chunks for an upload
4. UCAN request PUT access for each chunk
5. upload each chunk to S3
6. IPFS blocks are indexed by Elastic IPFS

