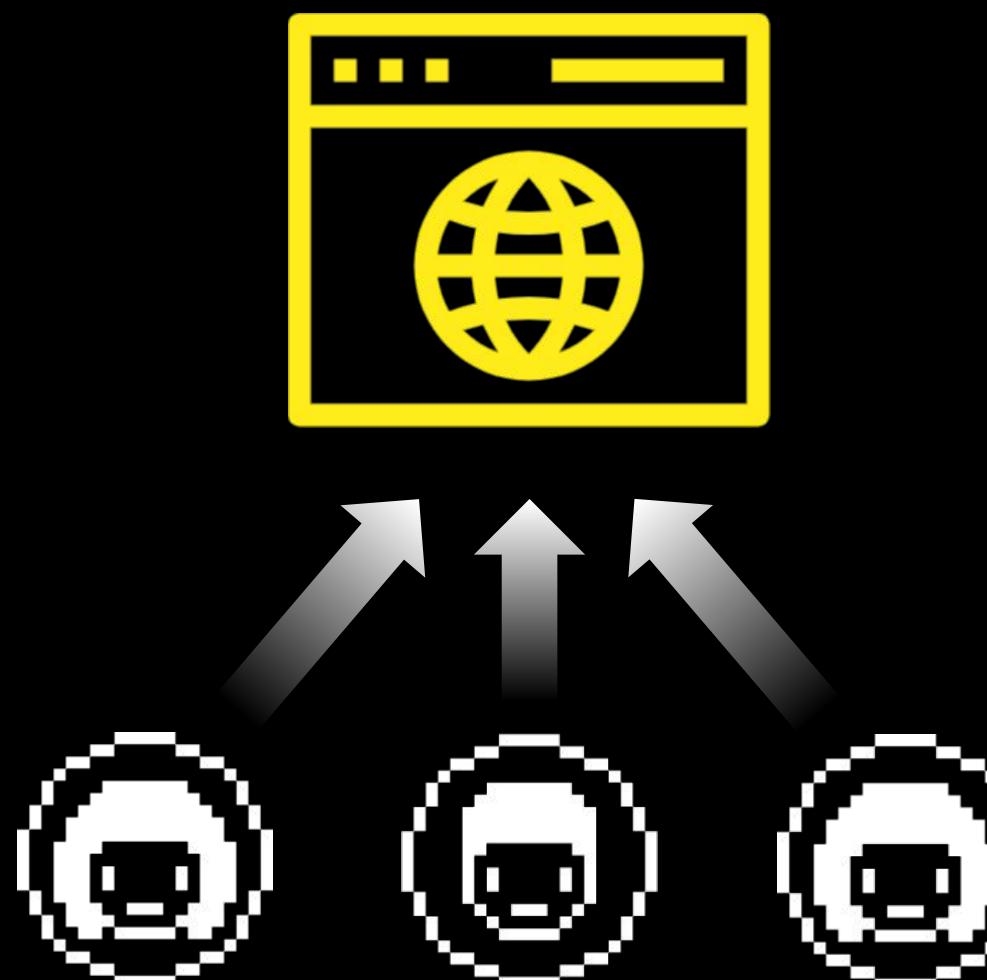


# **DWeb Deep Dive**

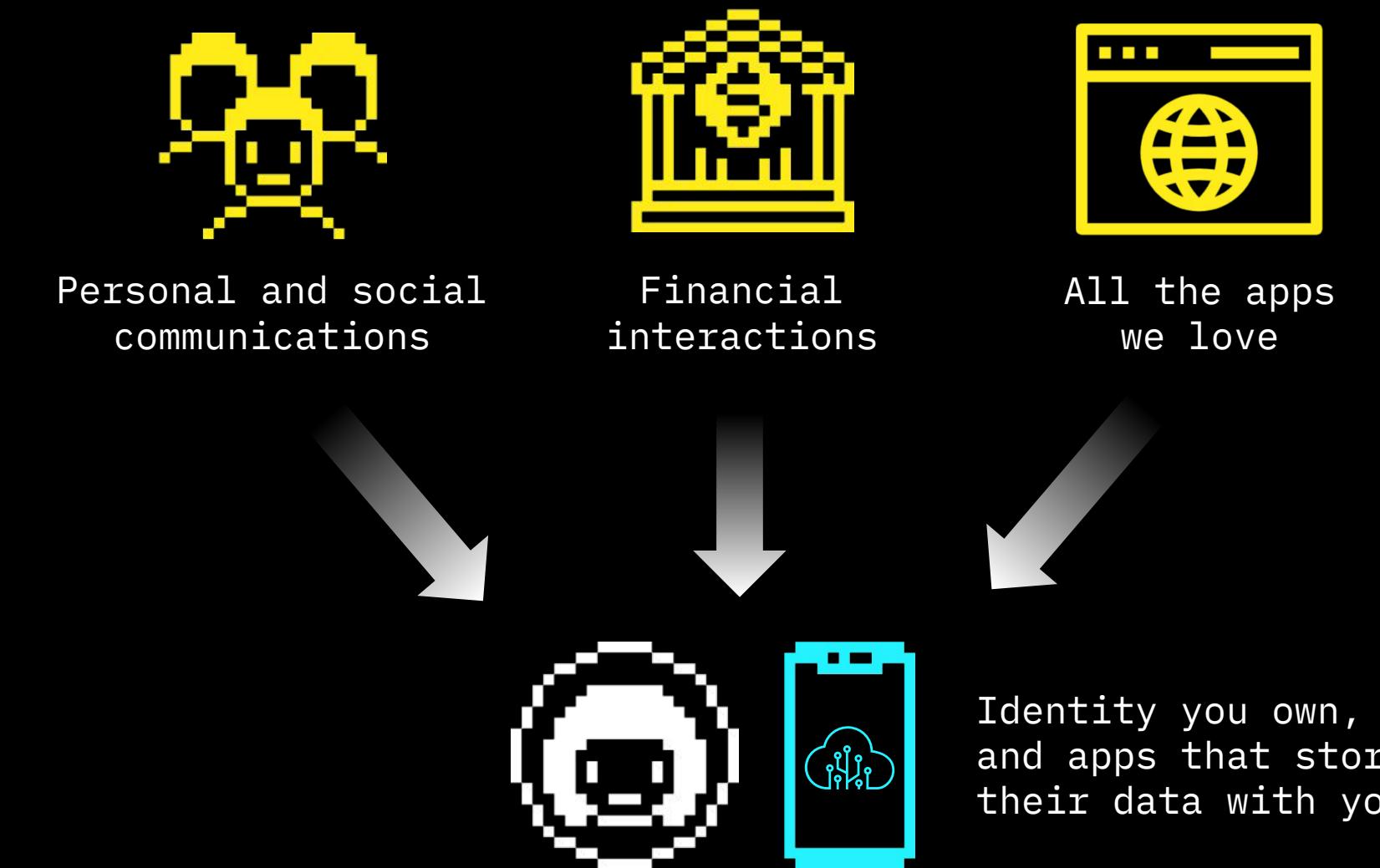
**Daniel Buchner  
Liran Cohen**

# We need a more you-centric Web

Today



The Web We Want



# Back to the Future

HTML



WEB



- 17 years ago, browser vendors published the first draft of the HTML5 spec.
- HTML5 introduced powerful new features to the Web that went far beyond HTML (e.g. APIs for geolocation, audio, local storage of data).
- HTML5 enabled us to deliver better experiences, but since then centralization of the Web became a serious problem.

The Web was created without a means for individuals to own their identity.  
**Decentralized Identifiers** fix this



The Web lacks a way for individuals and businesses to convey trust and reputation.  
**Verifiable Credentials** fix this

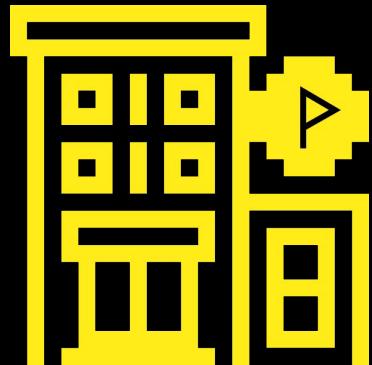


The Web's app model is based on storing data with centralized corporate silos.  
**DWeb Node personal datastores** fix this

# Decentralized Identifiers

## The root of your identity

alice@icloud.com



u/alice

@alice



Today, the identifiers that form the root of your digital identity are owned and controlled by corporations and centralized intermediaries.



Alice owns her DIDs, backed by a decentralized network, with no reliance on trusted intermediaries.

```
did:dht:alice = {
  keys: {...},
  endpoints: {...}
}
```

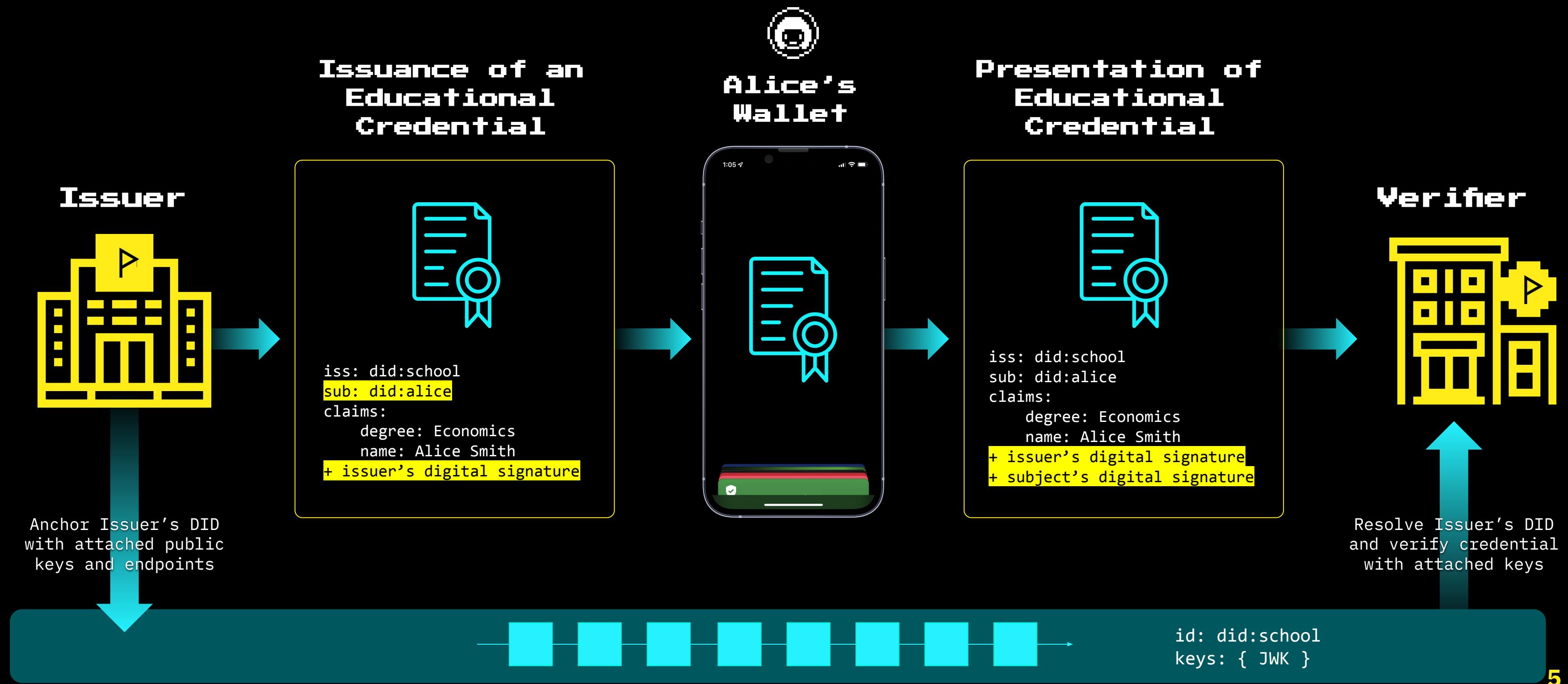


Bob is able to independently lookup and verify Alice's DID to find her keys and routing endpoints.

```
fetch(did:dht:alice)
```

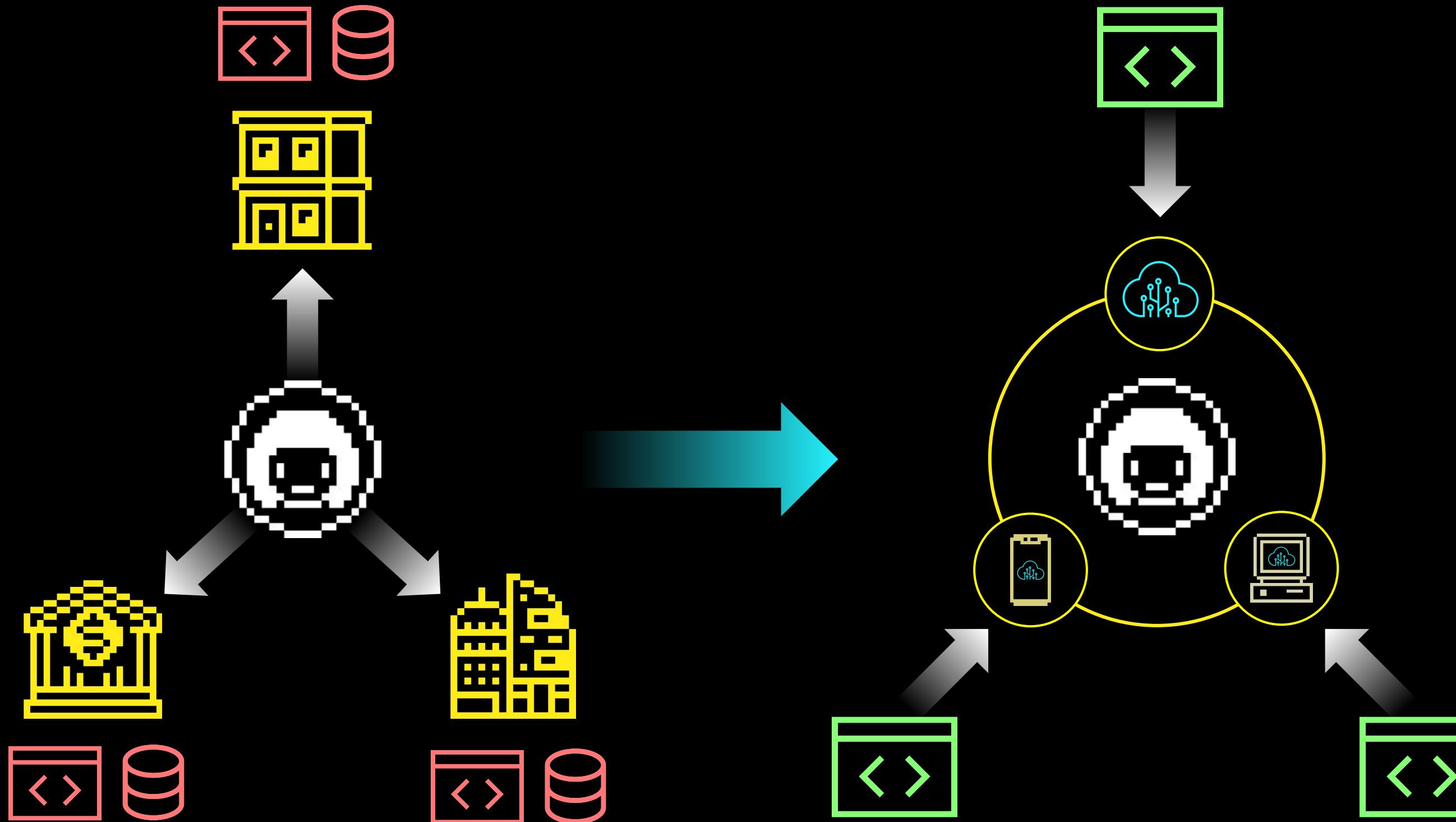


# Verifiable Credentials (VCs)



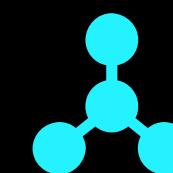
# Personal Datastores

## The hub of the you-centric Web



### **Supports Any App Type**

DID-relative addressing of data the owner publishes.



### **Replicated**

Masterless eventually consistent replication across devices and clouds.



### **Encryption**

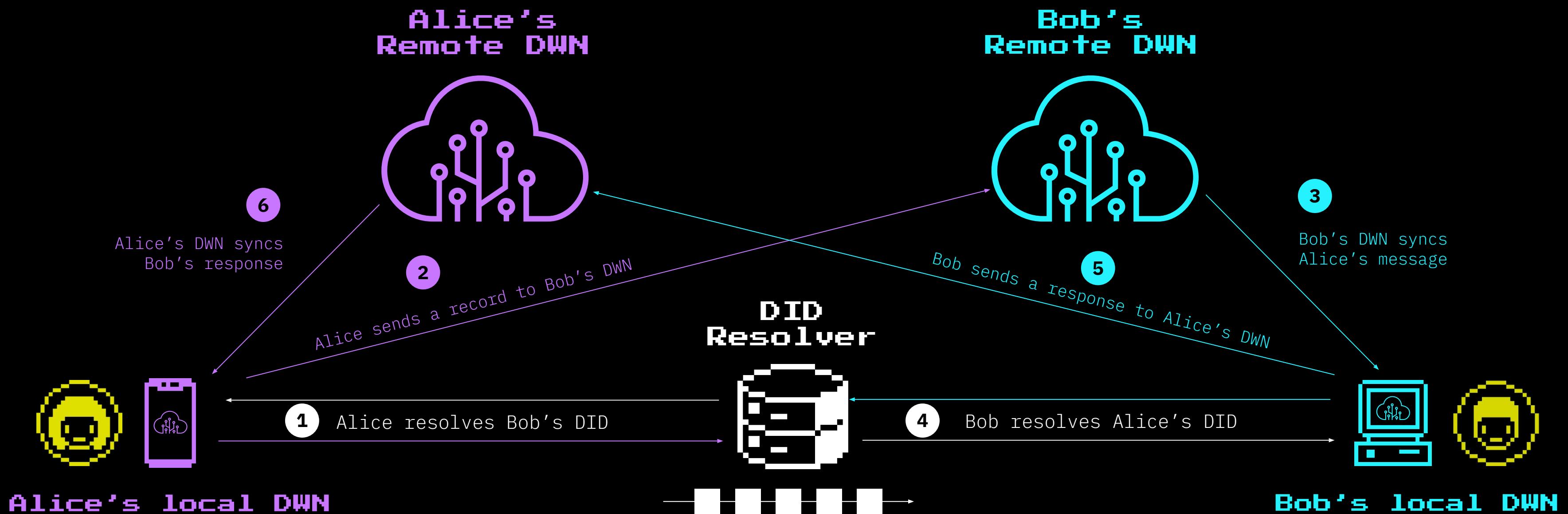
Data can be optionally encrypted with the DID keys of the owner.



### **Large Binary Support**

Store large files, such as images, audio, video, etc.

# The Topology of the DWeb



# A more personal Web

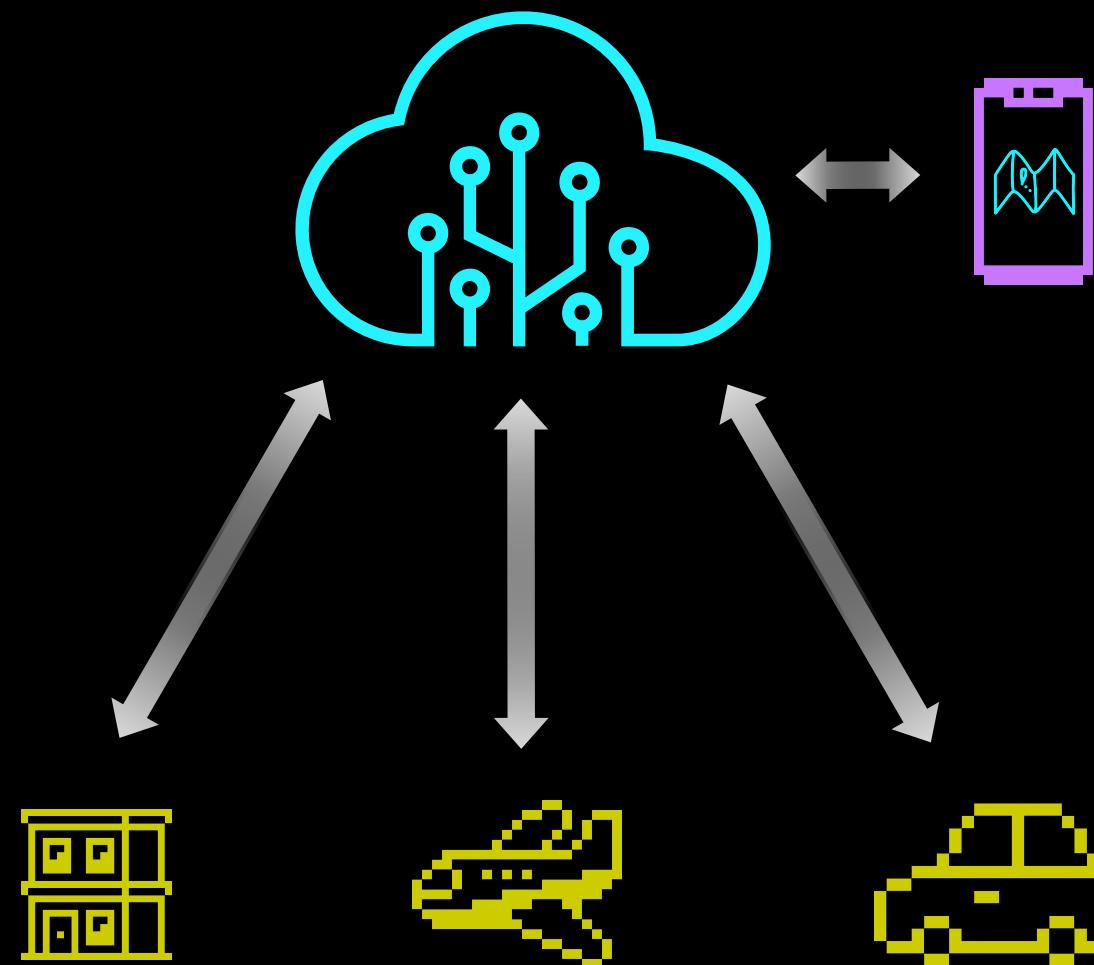


# Hotel me your travel plans

1

Alice grants her hotel, airline, and rental car provider the ability to add reservations, tickets, and receipts to her collection of trip-related data.

```
dwn.records.write({  
  schema: "schema.org/Reservation"  
  data: { ... }  
})
```

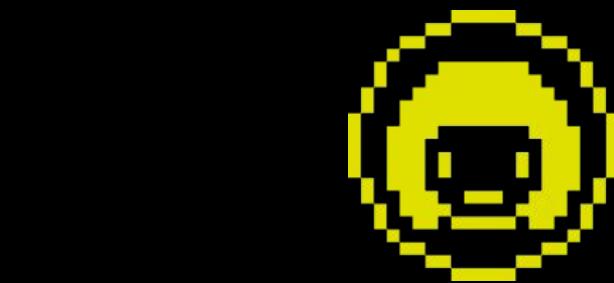


2

Alice can give any app, service, or individual she chooses access to reservations, tickets, and receipts from her travel data.

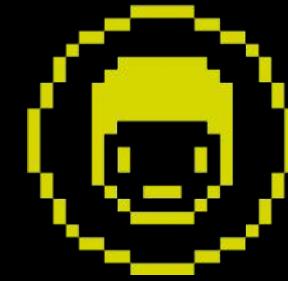
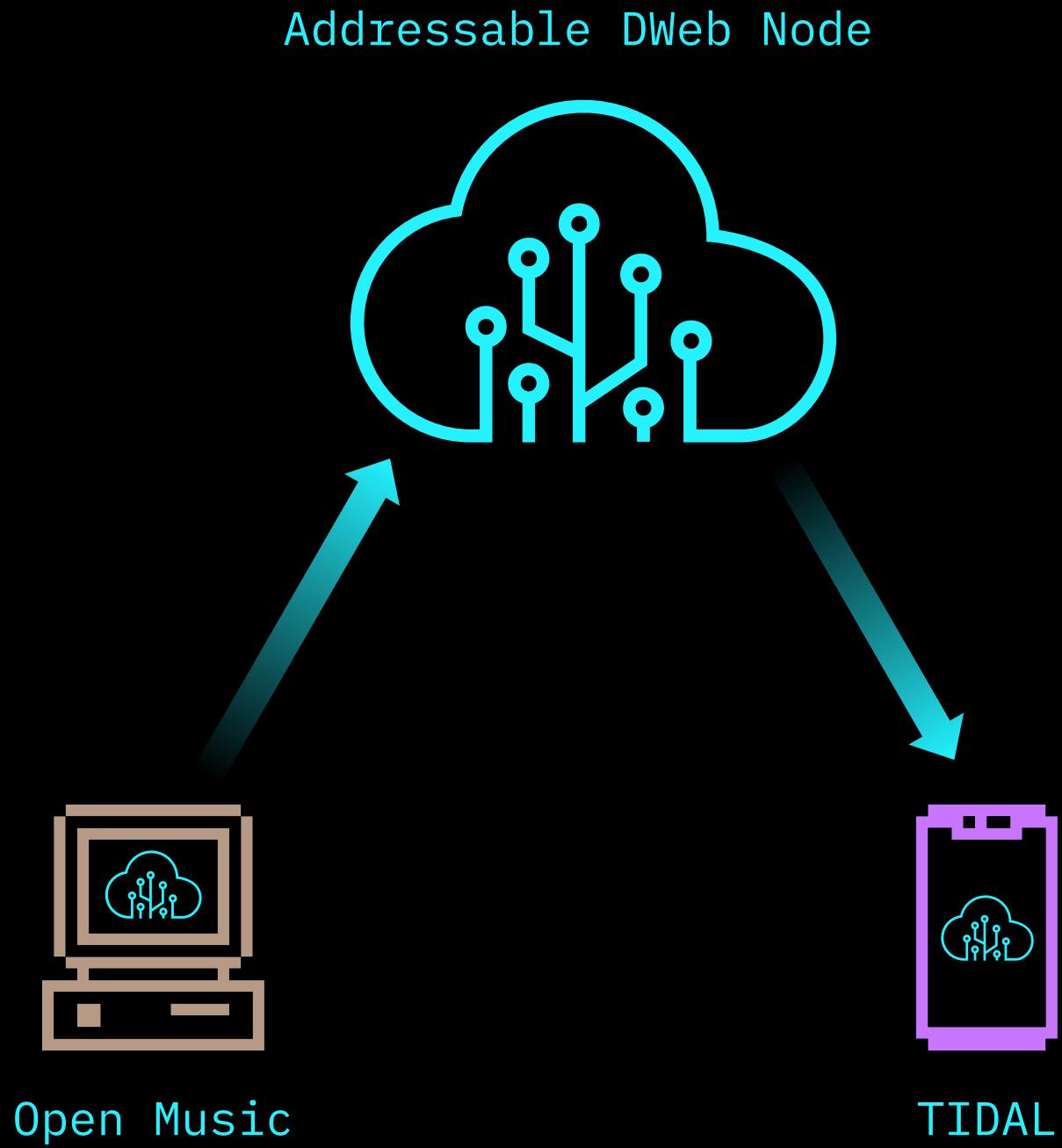
```
dwn.records.read({  
  schema: "schema.org/Trip"  
  data: { ... }  
})
```

# Music to my ears



Artist adds new music and other content for listeners who have paid for a subscription.

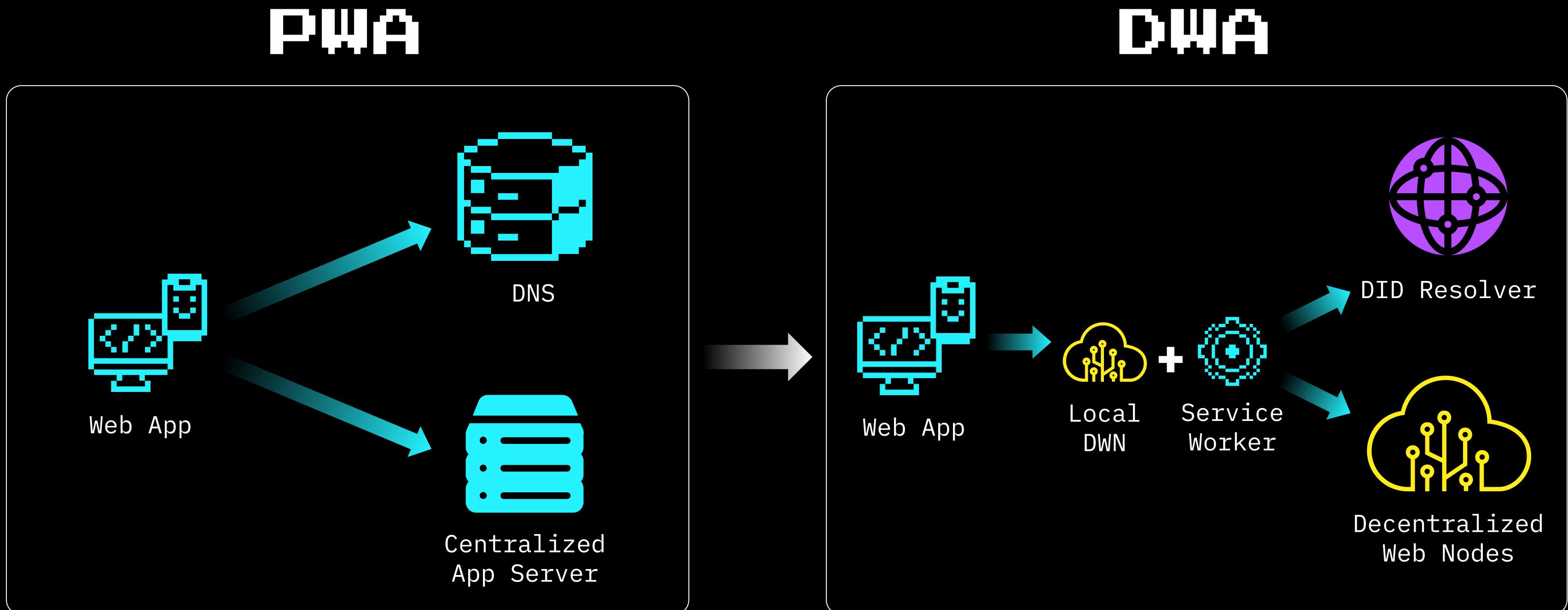
```
dwn.records.write({  
  schema: "schema.org/Track"  
  data: { ... }  
})
```



Subscribers can consume new content from artists in real-time, by streaming content from an artist's DWeb Node.

```
dwn.records.query({  
  schema: "schema.org/Track"  
})
```

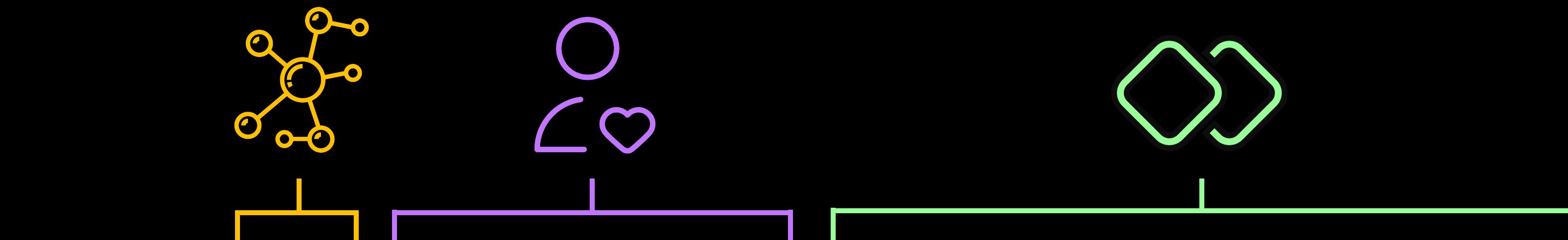
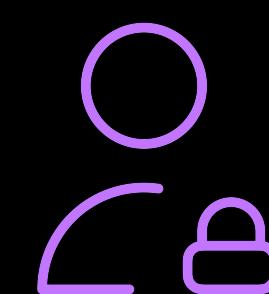
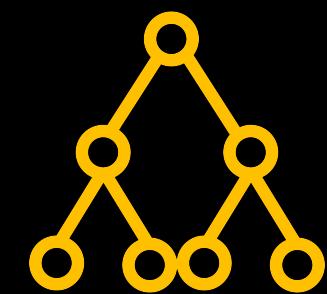
# From PWAs to DWAs



# Decentralized Resource Locators (DRLs)

12

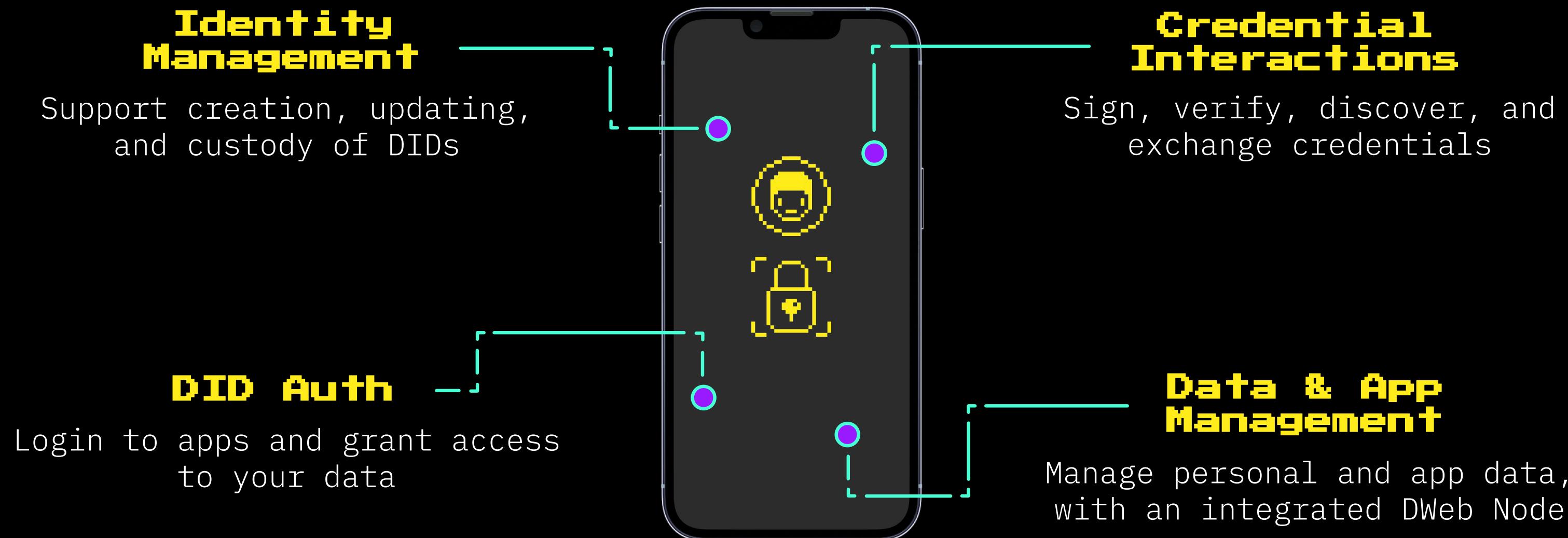
`https://centralized-app.com/alice/profile/avatar`



`http://dweb/did:dht:alice/protocols/profile/avatar`

# Mobile Wallet

Q4 2024



# Web5 DWN free community node now available!

Web5 Decentralized Web Nodes (DWNs) operated by the Decentralized Identity Foundation (DIF) enables developers to build decentralized, serverless applications. Developers can leverage DWNs on Google Cloud to build test applications.



# Let's build!

