Verifiable Credentials for the Identity Practitioner
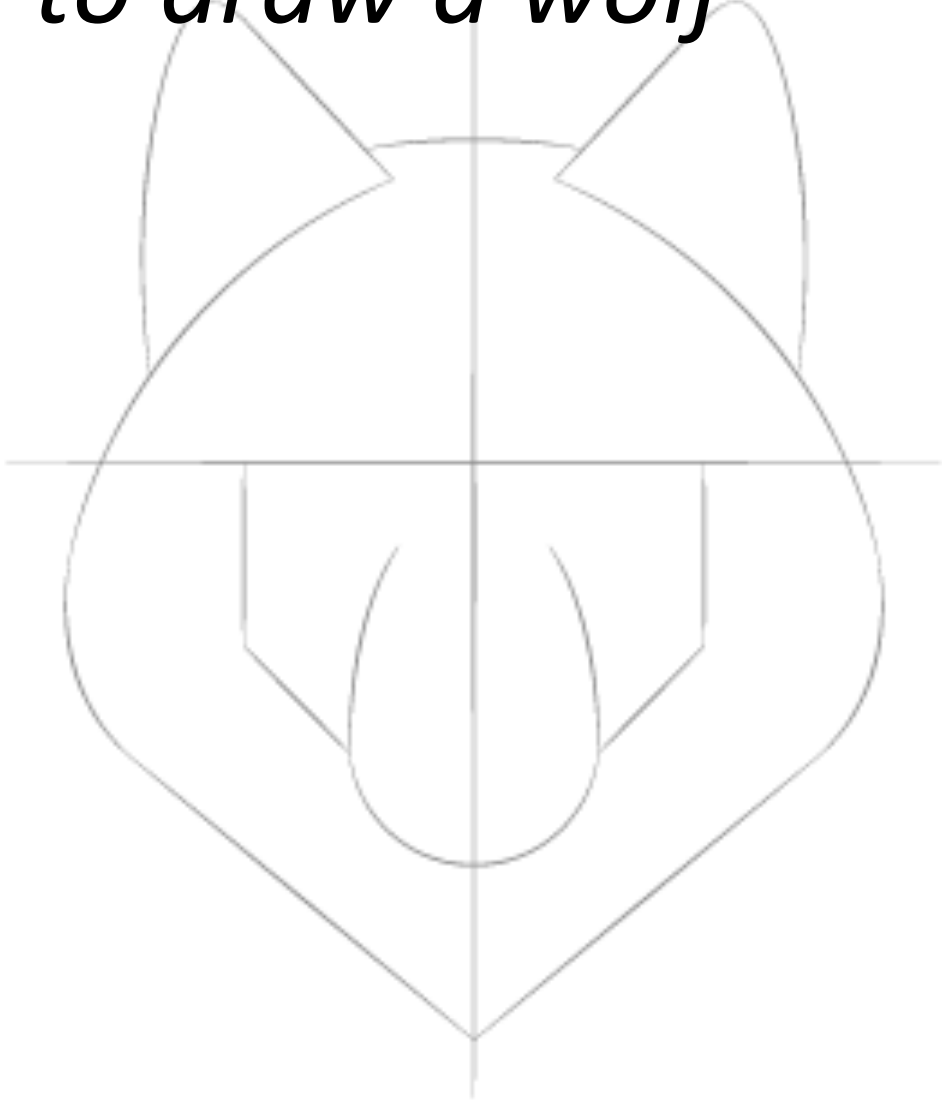
Vittorio
Bertocci

Principal Architect

OKTA

@vibronet

How to draw a wolf

Draw the silhouette
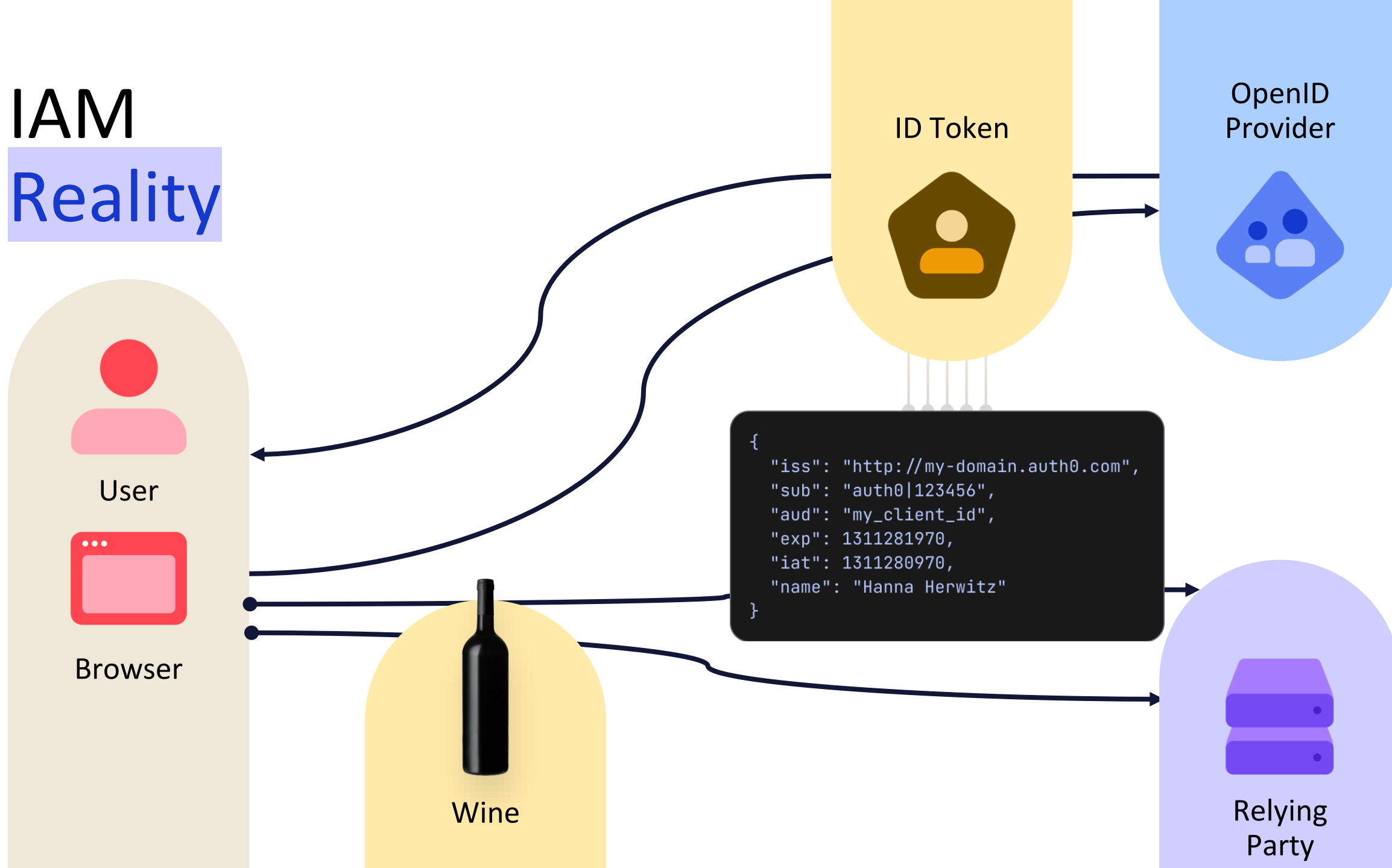

Add details

Disclaimer

The views and opinions shared in this talk are my own and not necessarily shared by any employers or groups I am presently of have previously been affiliated.
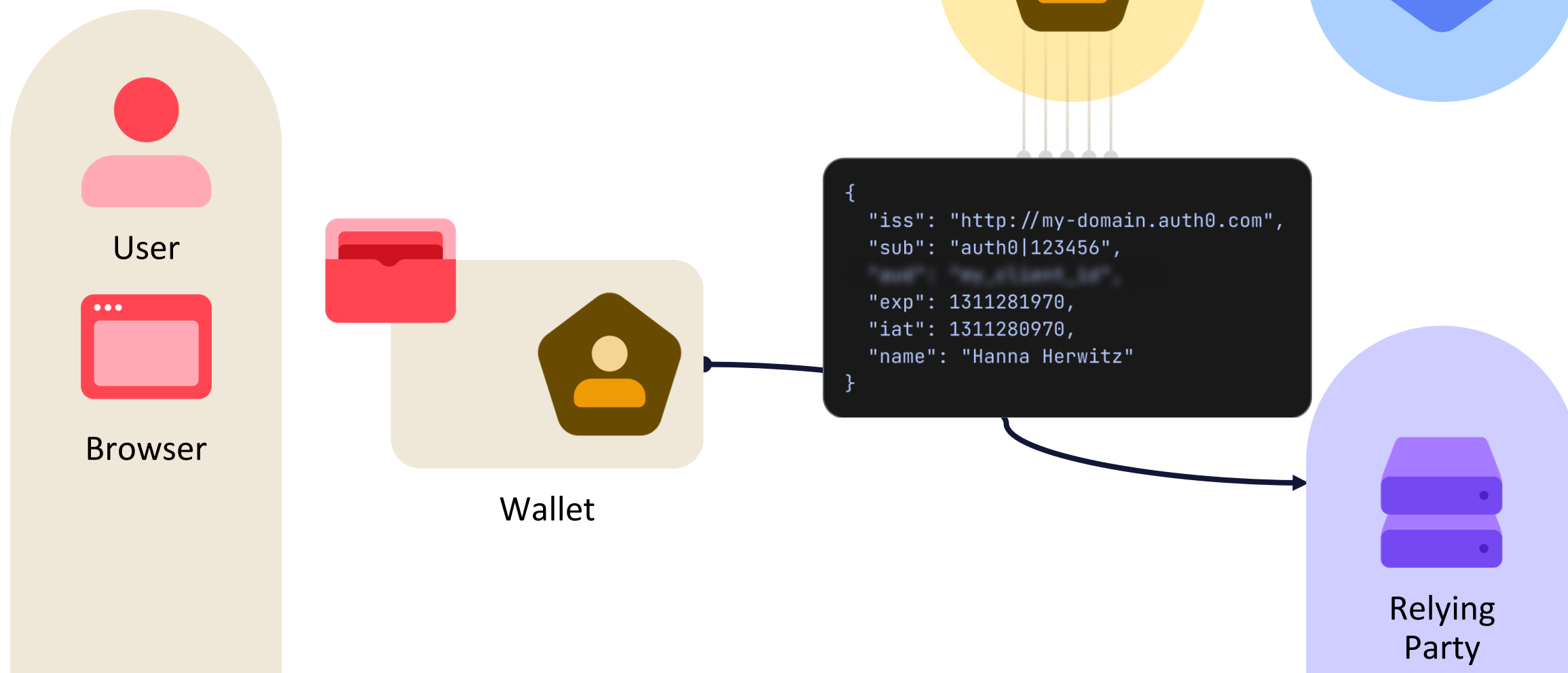
You have been lied to.

Classic
Metaphor

Government

User

Wine Store

Asgard   34502108

NAME
Hanna Herwitz

PERSONAL IDENTIFIER
34502108

DATE OF BIRTH
1984-09-17

PLACE OF BIRTH
Asgard City

GENDER
Female

CURRENT ADDRESS
24th Street 210,
Asgard City, 1023

ISSUED BY
Wakanda

Wine

IAM
Reality

ID Token

OpenID
Provider

User

Browser

Wine

```
{
    "iss": "http://my-domain.auth0.com",
    "sub": "auth0|123456",
    "aud": "my_client_id",
    "exp": 1311281970,
    "iat": 1311280970,
    "name": "Hanna Herwitz"
}
```

Relying
Party

This is mostly
by design

What if we'd want digital documents for real?

No more ~~audience~~

User

Browser

Wallet

"ID Token"

OpenID Provider

```
{
    "iss": "http://my-domain.auth0.com",
    "sub": "auth0|123456",
    "aud": "my_client_id",
    "exp": 1311281970,
    "iat": 1311280970,
    "name": "Hanna Herwitz"
}
```

Relying Party

Proof of possession

User

Browser

Wallet

OpenID Provider

Relying Party
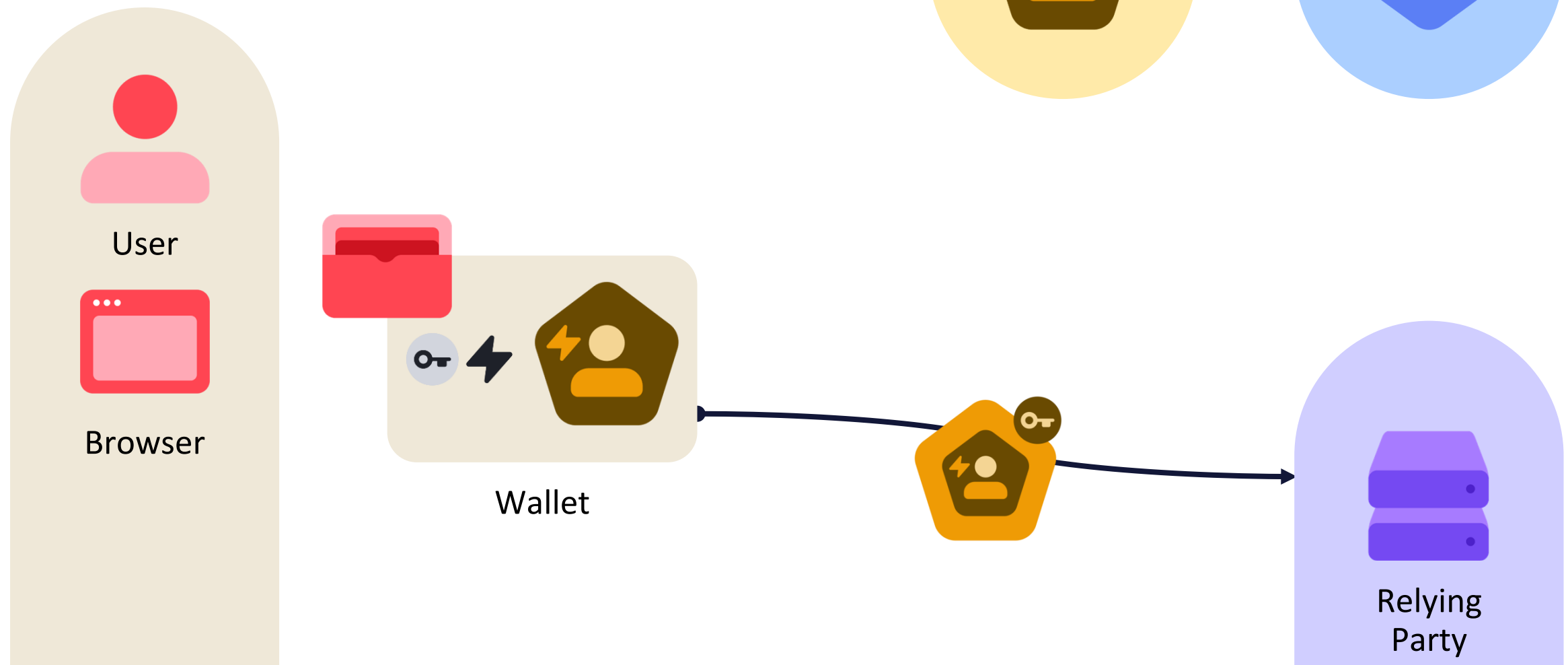
Re-Introducing Selective Disclosure

```
{
  "birthdate": "1983-10-31",
  "address": "1st Ave Somewhere, Some  City",
}
```

```
{
  "birthdate": "1983-10-31",
  ...
}
```

Somebody already invented all this, though.

Verifiable credentials have many cooks

Terminology

Holder

Wallet

Issuance

Presentation

Verifiable Credential

Verifiable Presentation

Issuer

Verifier
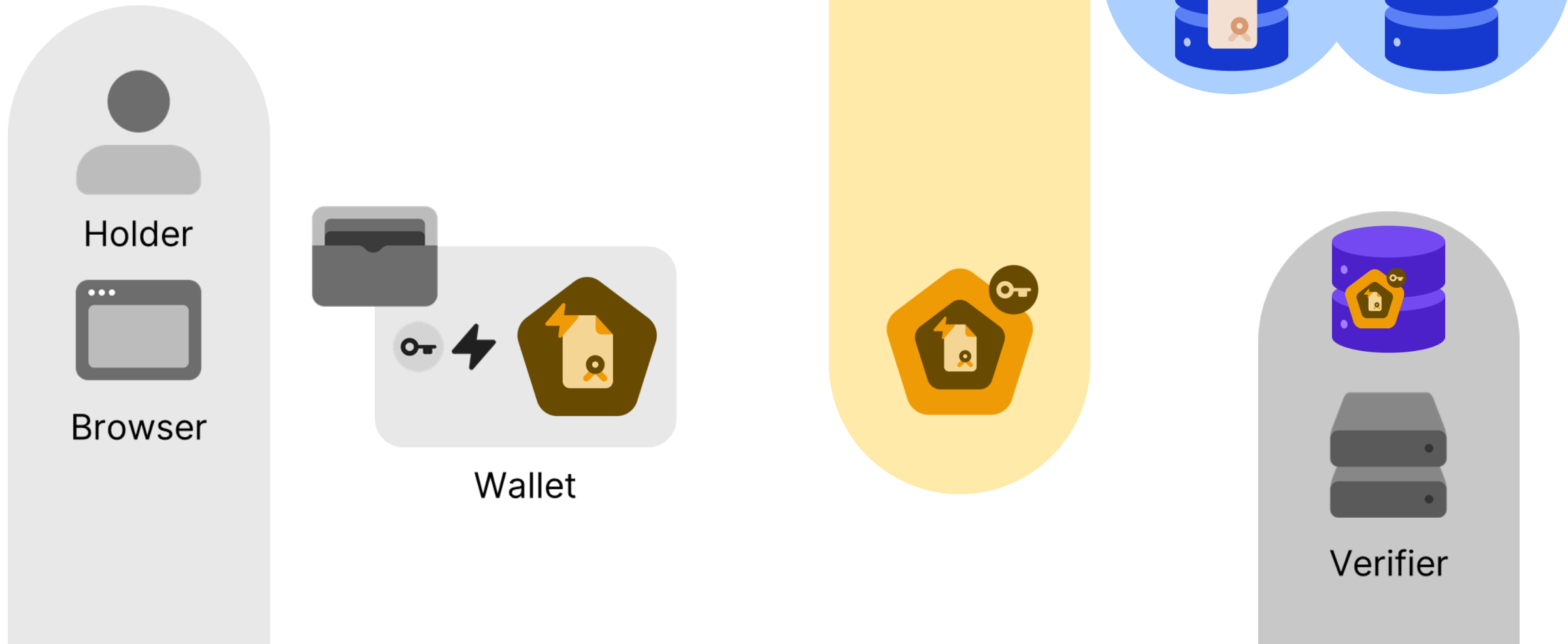
Verifiable Data Registry
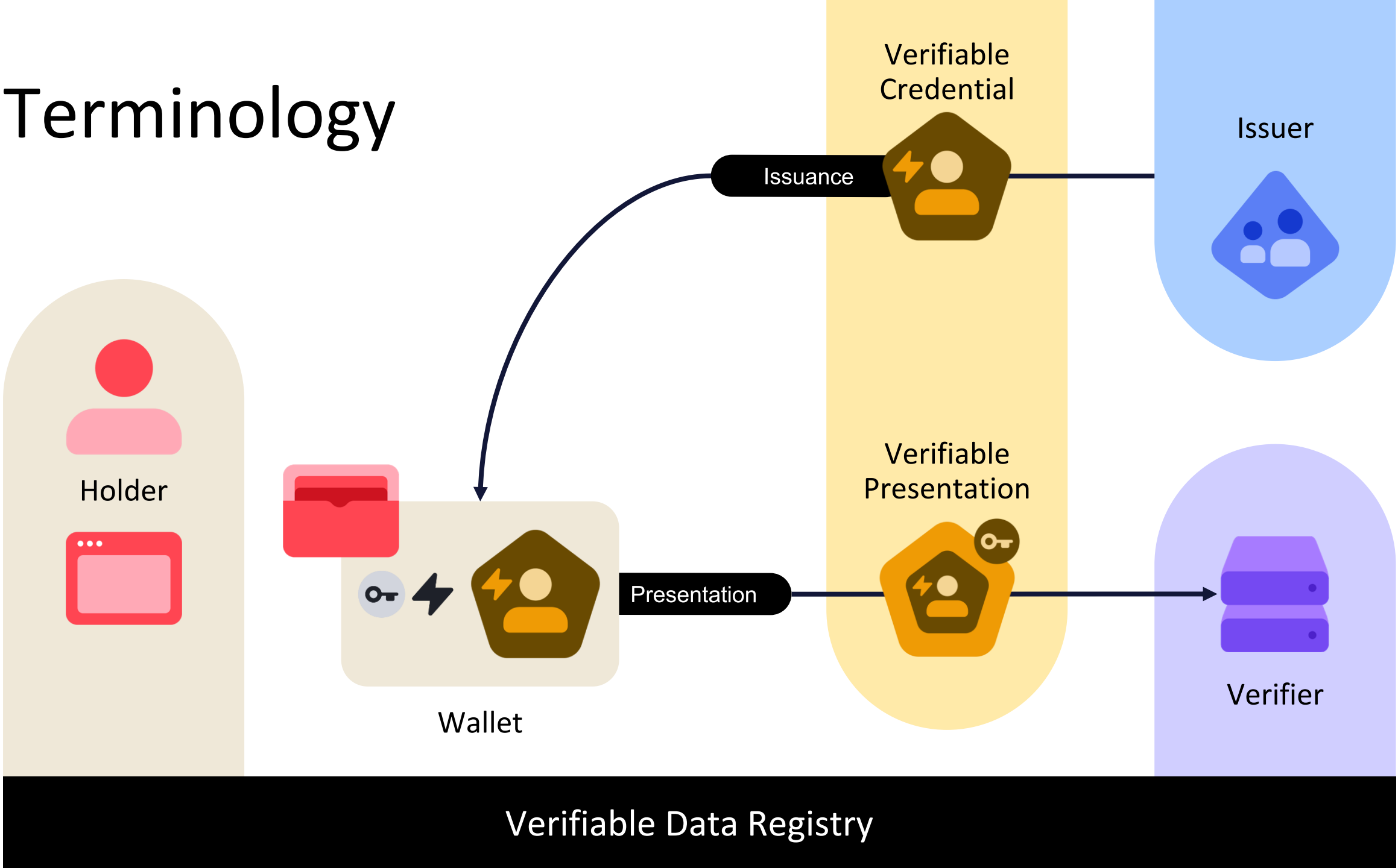
...many cooks
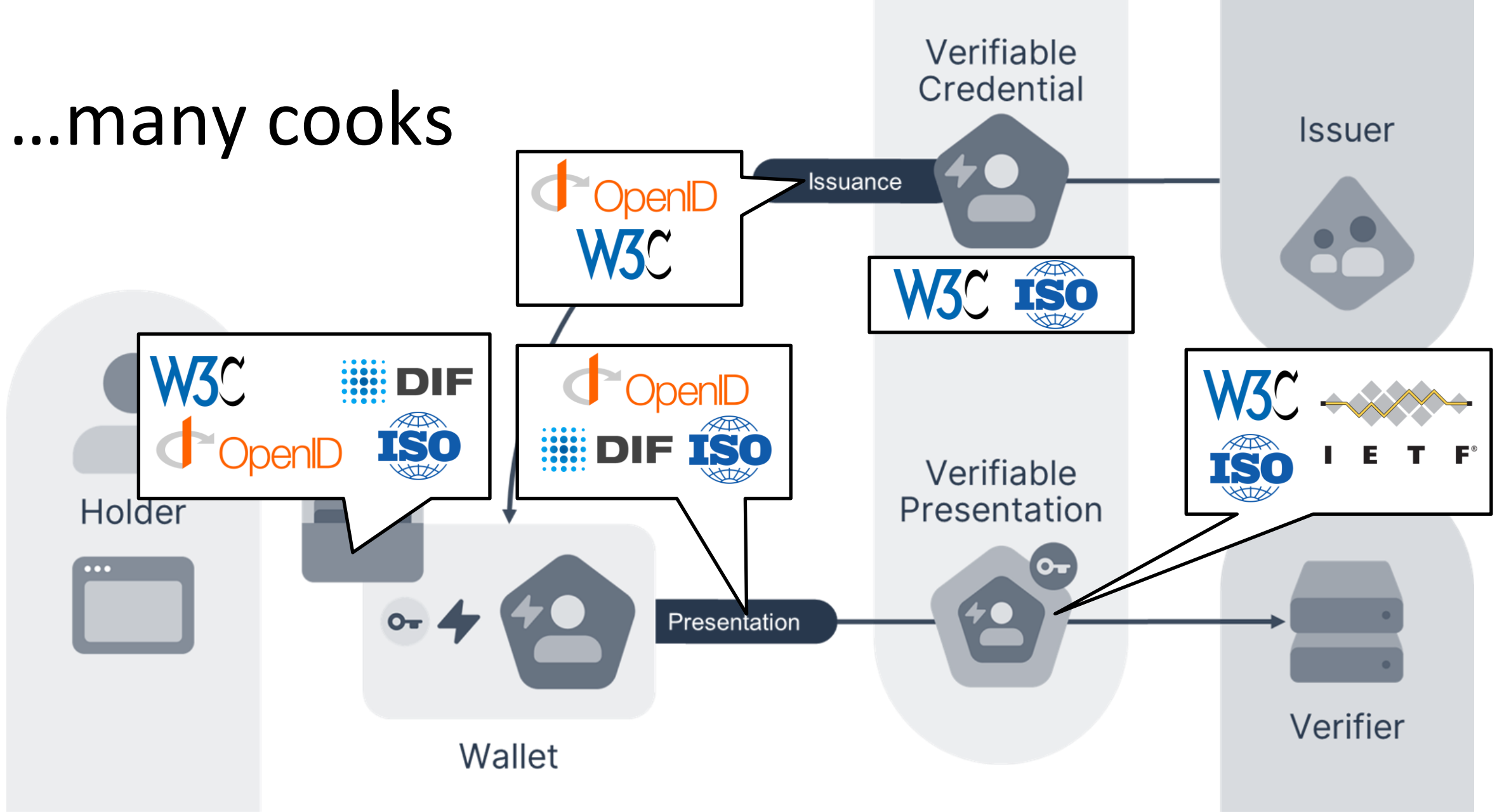
Classic claims about
Verifiable Credentials

Classic value propositions you will usually hear

1 **Central DBs will disappear**

2 **Users own their identity**
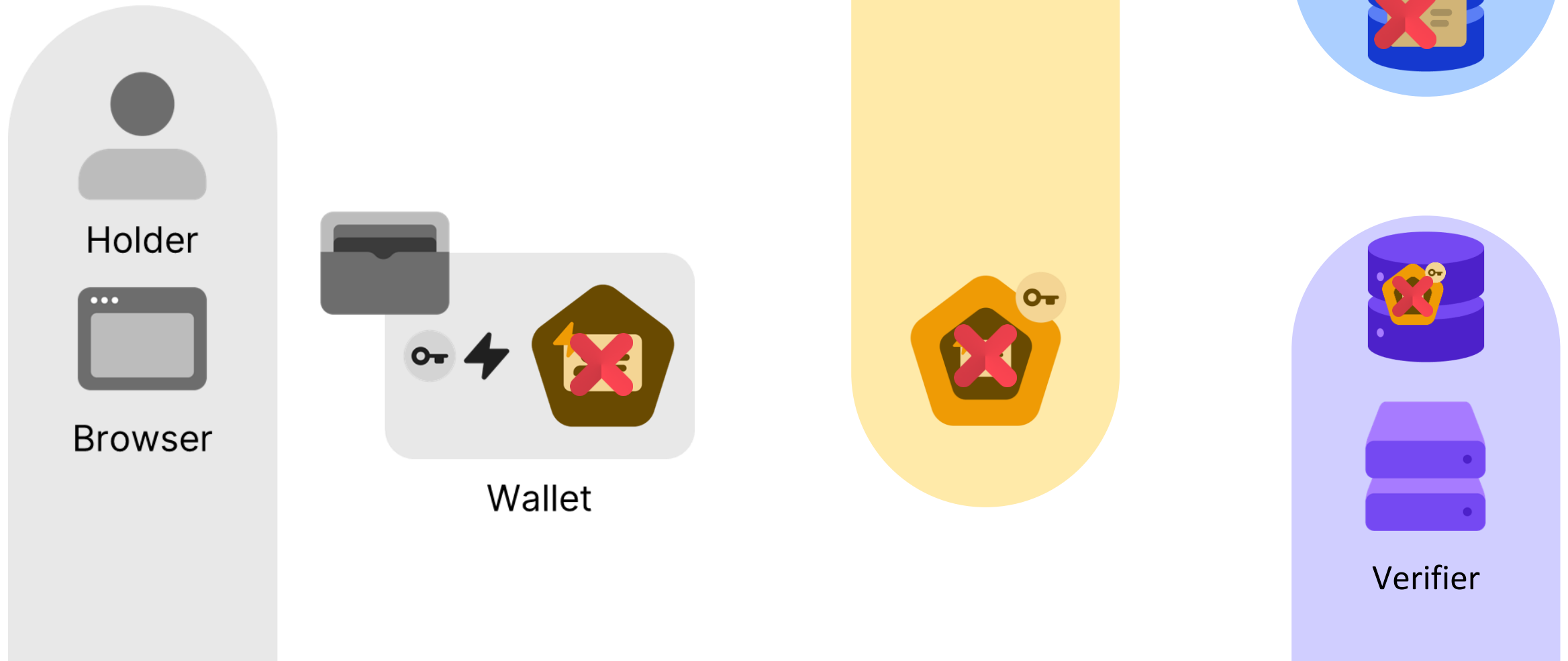
3 **Improved privacy**
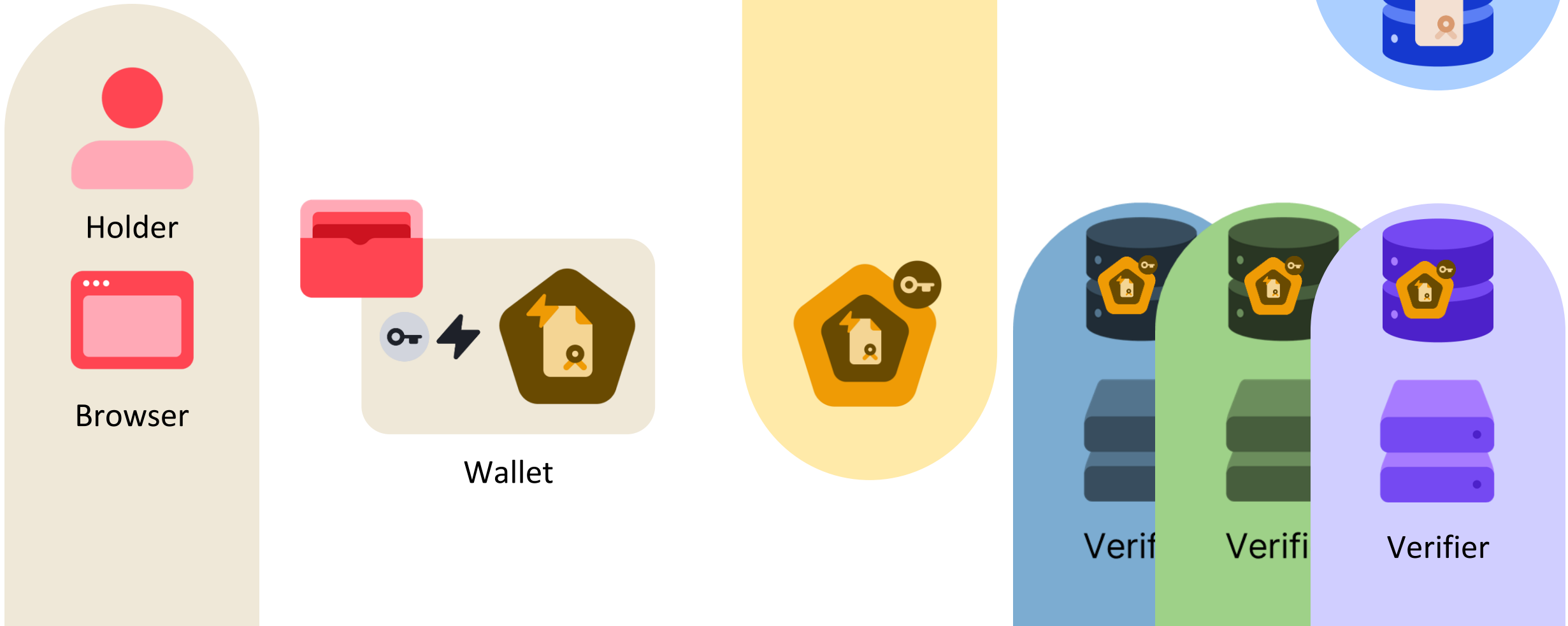
Claim #1
Centralized databases will disappear

University   Hospital

Holder

Browser

Wallet

Verifier

Claim #2
User is in control of their own identity

Holder

Browser

Wallet

Issuer

Verifier

Claim #3
Privacy will improve

Holder

Browser

Wallet

Issuer
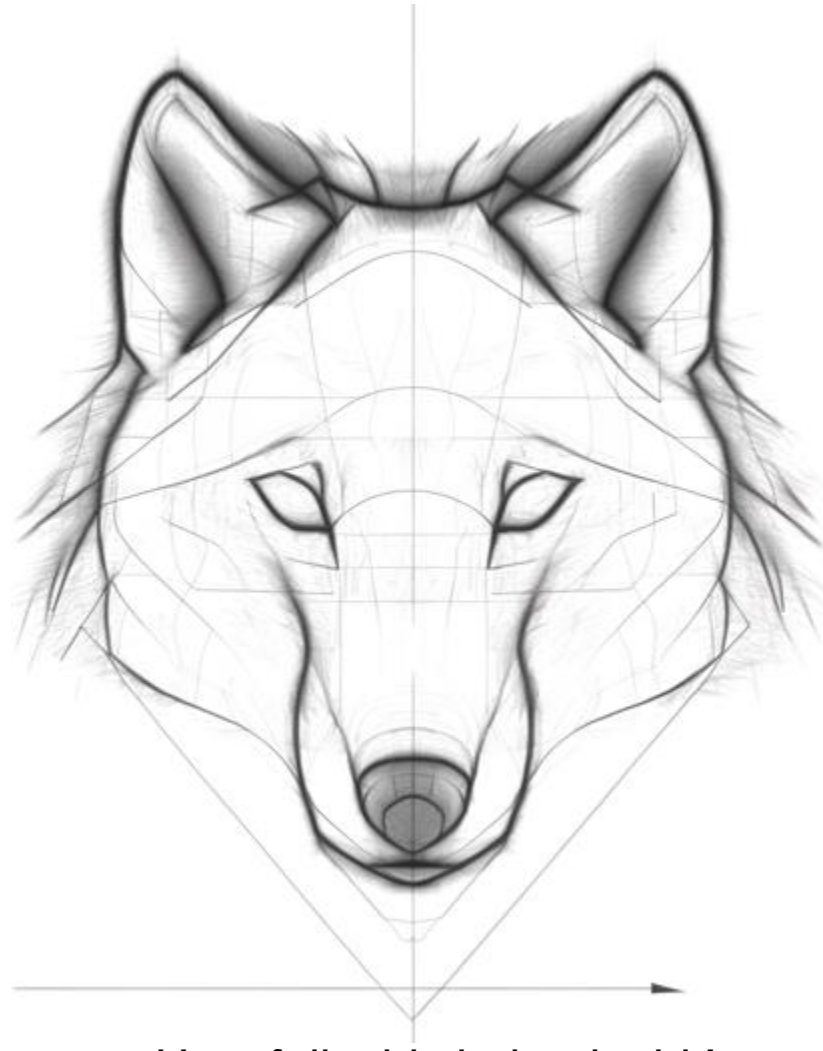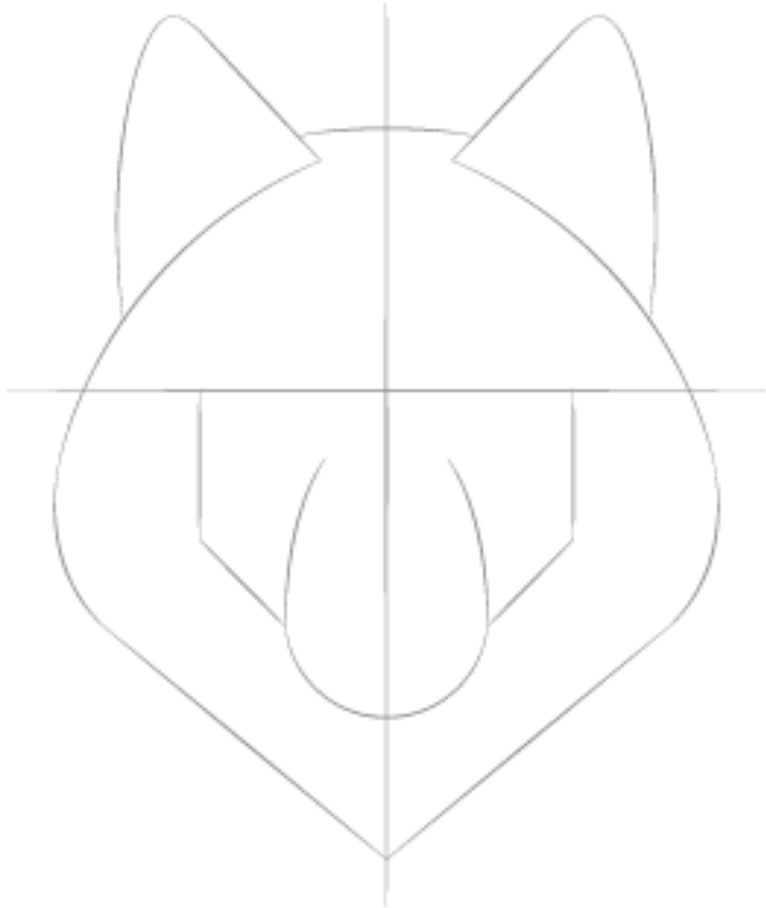
Verifier

Verifier

Verifier

We need VCs
[to happen.](#)

Why IAM practitioners can't ignore VCs

- We do need non-auditing identity providers

- Ubiquitous high assurance creds can be a game changer

- Uniquely suited for MASSIVE scale

How to draw a wolf

Hopefully this helped a bit!

QA

• @vibronet

Grazie Mille

- @vibronet