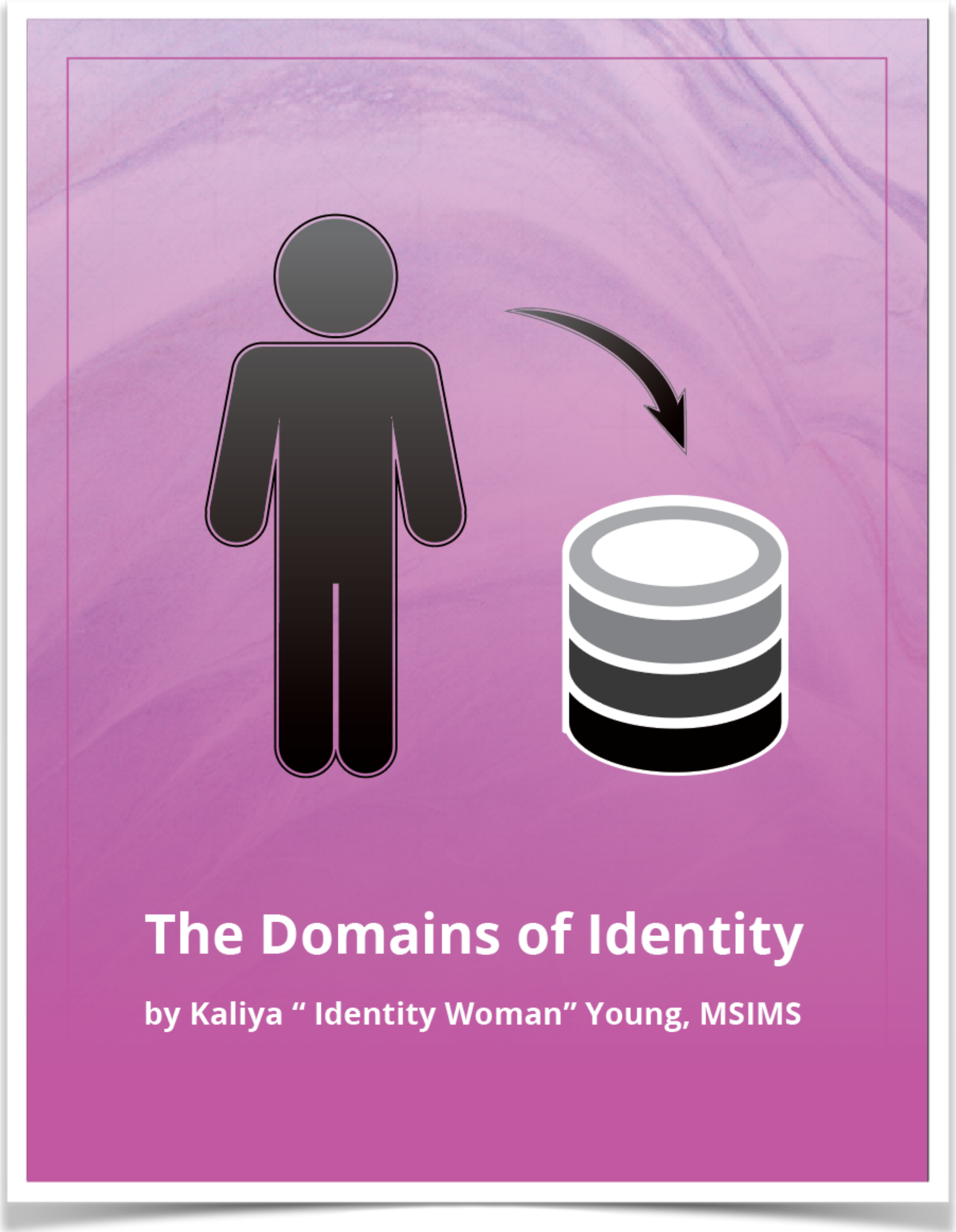
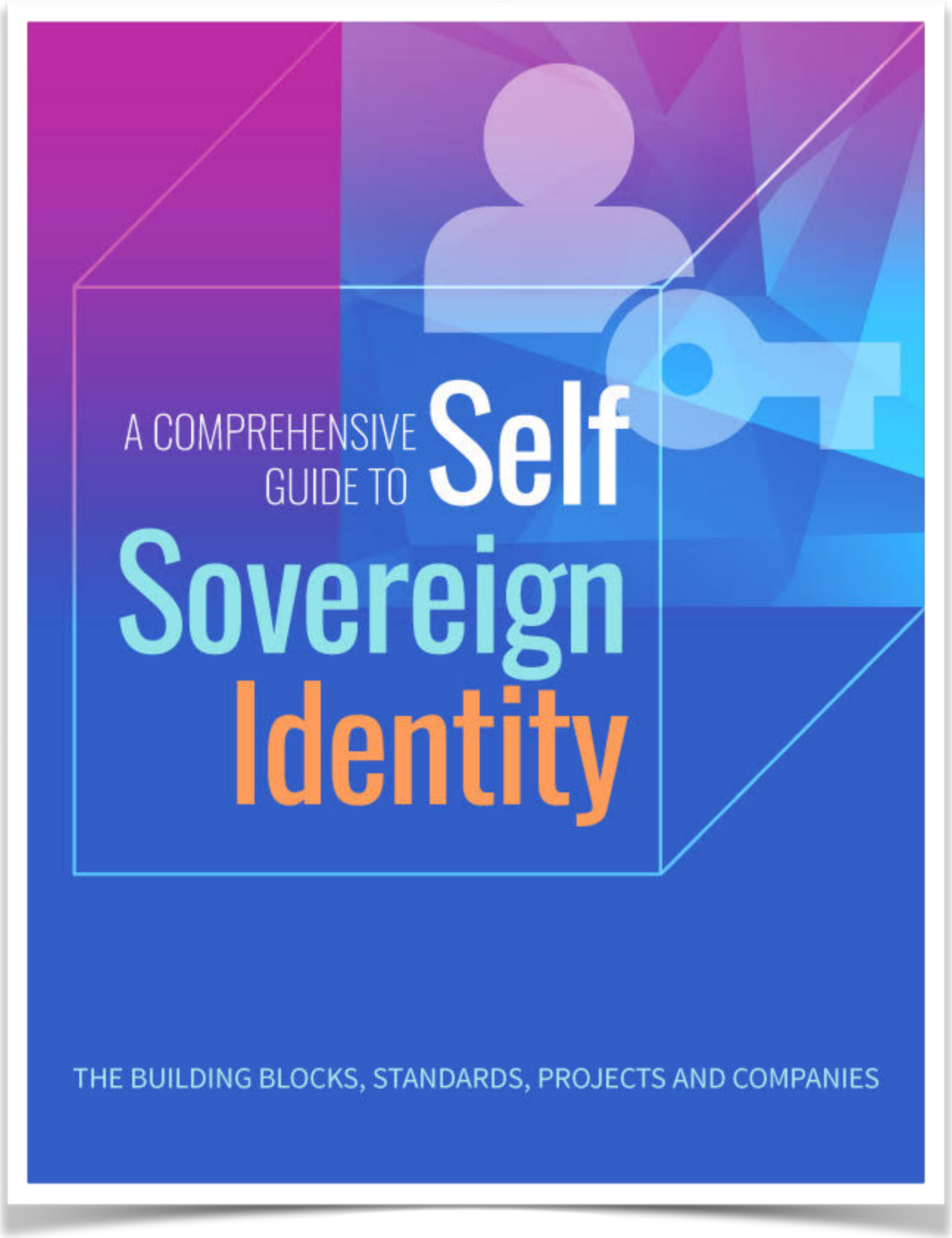
Domains of Identity

+ Self-Sovereign Identity



The Domains of Identity

by Kaliya " Identity Woman" Young, MSIMS



A COMPREHENSIVE GUIDE TO Self Sovereign Identity

THE BUILDING BLOCKS, STANDARDS, PROJECTS AND COMPANIES

This presentation includes slides from the following community members:

* Drummond Reed
* Manu Sporny
* Timothy Ruff
* John Jordan & BC Team

March 2019

Kaliya Young

Saving the World with User-centric Identity.

identity Woman

New America
India-US
Public Interest
Technology Fellow

AADHAAR

Saving the World with User-centric Identity.

identity Woman

Independent Expert on the Rights and Dignity of our Digital Selves

2000 Conference:

Global Ecology and Information Technology

Convener of the:

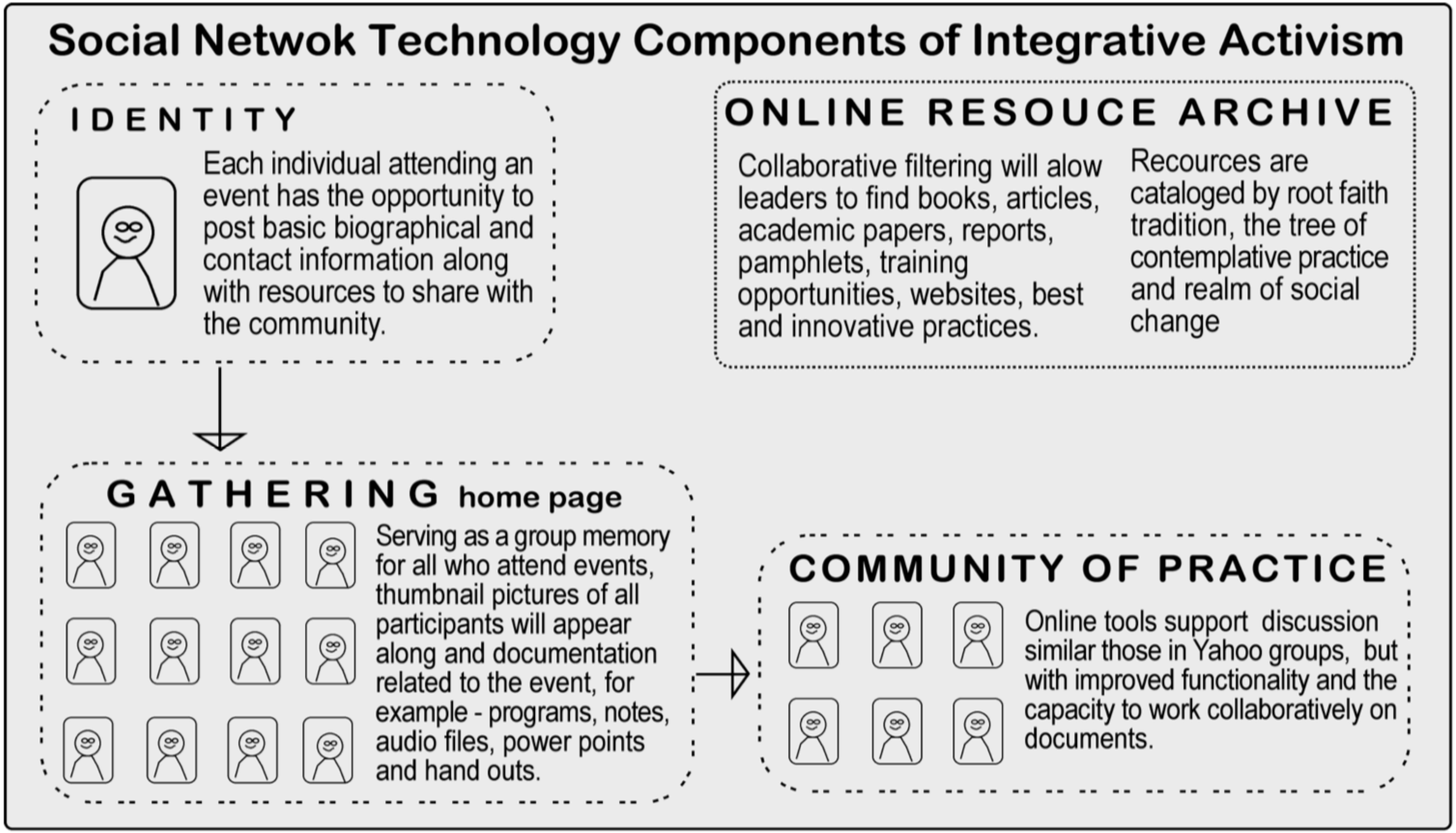
The Link Tank

ASN

Augmented Social Network

Building Identity and Trust into the Next Generation Internet

Kaliya Hamlin
Founder / Director



Social Netwok Technology Components of Integrative Activism

IDENTITY

Each individual attending an event has the opportunity to post basic biographical and contact information along with resources to share with the community.

ONLINE RESOUCE ARCHIVE

Collaborative filtering will alow leaders to find books, articles, academic papers, reports, pamphlets, training opportunities, websites, best and innovative practices.

Recources are cataloged by root faith tradition, the tree of contemplative practice and realm of social change

GATHERING home page

Serving as a group memory for all who attend events, thumbnail pictures of all participants will appear along and documentation related to the event, for example - programs, notes, audio files, power points and hand outs.

COMMUNITY OF PRACTICE

Online tools support discussion similar those in Yahoo groups, but with improved functionality and the capacity to work collaboratively on documents.

identitycommons

wiki.idcommons.net

Internet Identity Workshop 2005

THE UNIVERSITY OF TEXAS AT AUSTIN

PRAESIDIUM

DISCIPLINA CIVITATIS

Master of Science in Identity Management and Security

Proof of ID use cases

Home, Health, Family

Online dating
Name change
Adoption guardian/ POA
Purchase insurance
Change of address
Make medical appointment
Receive health care
Collect prescription medicines
Signup Utility/Telco Services
Pay utility bills
Collect parcels from post office
Sign into accounts online

Social, Leisure

Memberships and subscriptions
Phone internet sign up
Sign up to online service
Utilities, Telecoms products
Proof of age
Call centre support
Download apps
Discount/ Loyalty Redemption
Club and memberships
Bar Tab
Online Shopping

Professional

Occupational license
Pay tuition fees, loans, coaching
Start a business
Banking
Payroll
Hotel check in
Log-ins
Enter office buildings

Financial

Superannuation
Apply for loan or mortgage
Buy/claim insurance
Credit check/ scoring
Apply for a new banking product (credit card, e-wallet)
Apply for an insurance product
Log-into bank account
Payments online
Pay using card

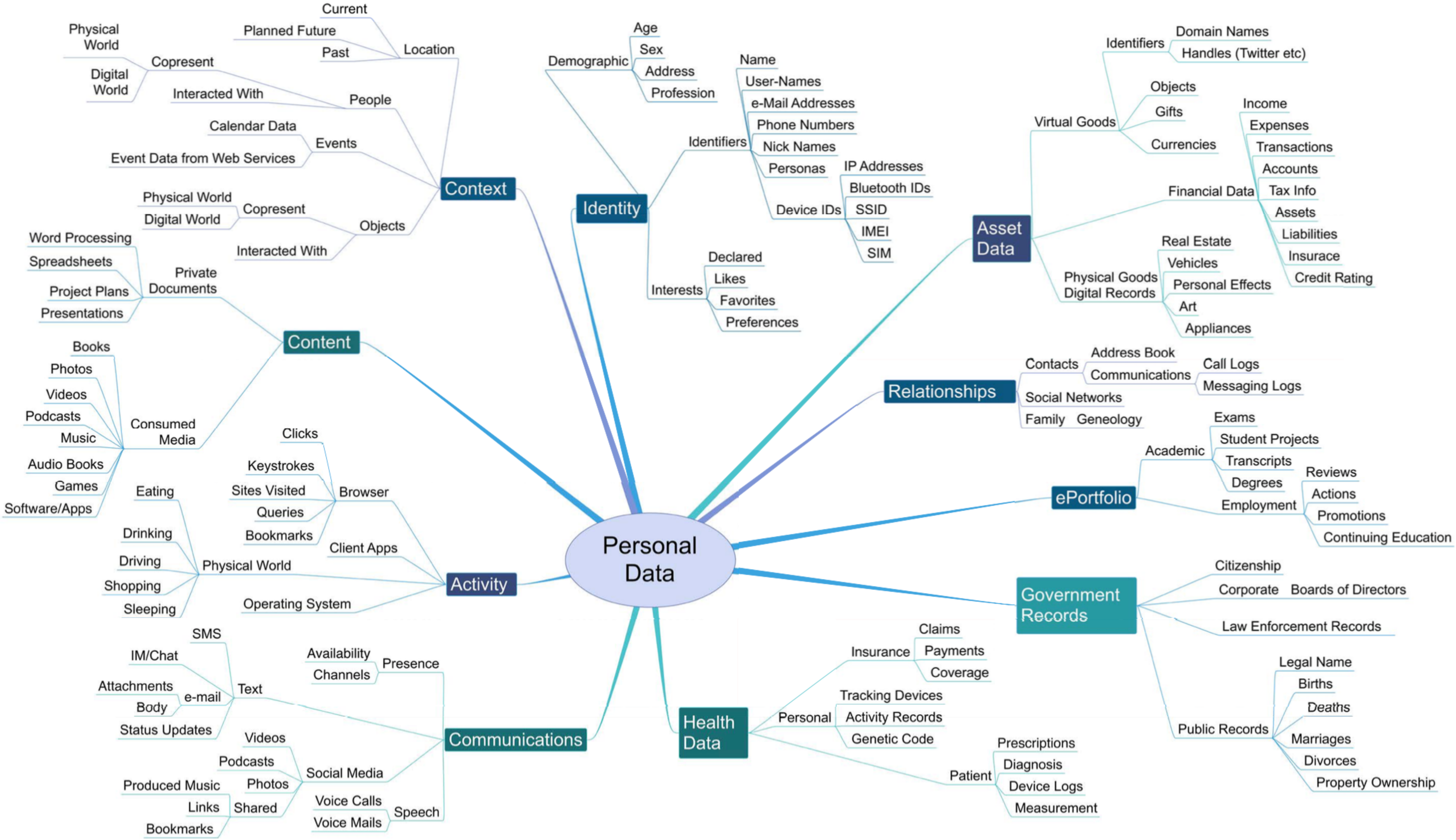
Travel

Sign up for loyalty rewards program
Travel visa
Travel cheques
Register a travel card
Immigration
Accomodation and hotel check-in
Online bookings
Rent a vehicle
Carry diver's licence

Government, Legal

Birth certificate
Visas
Death certificate
Jury service
Police check
Passport
Driver's license
Wills and inheritance
Pay fines
Pay tax
Apply for a license
Voting
Claim benefits

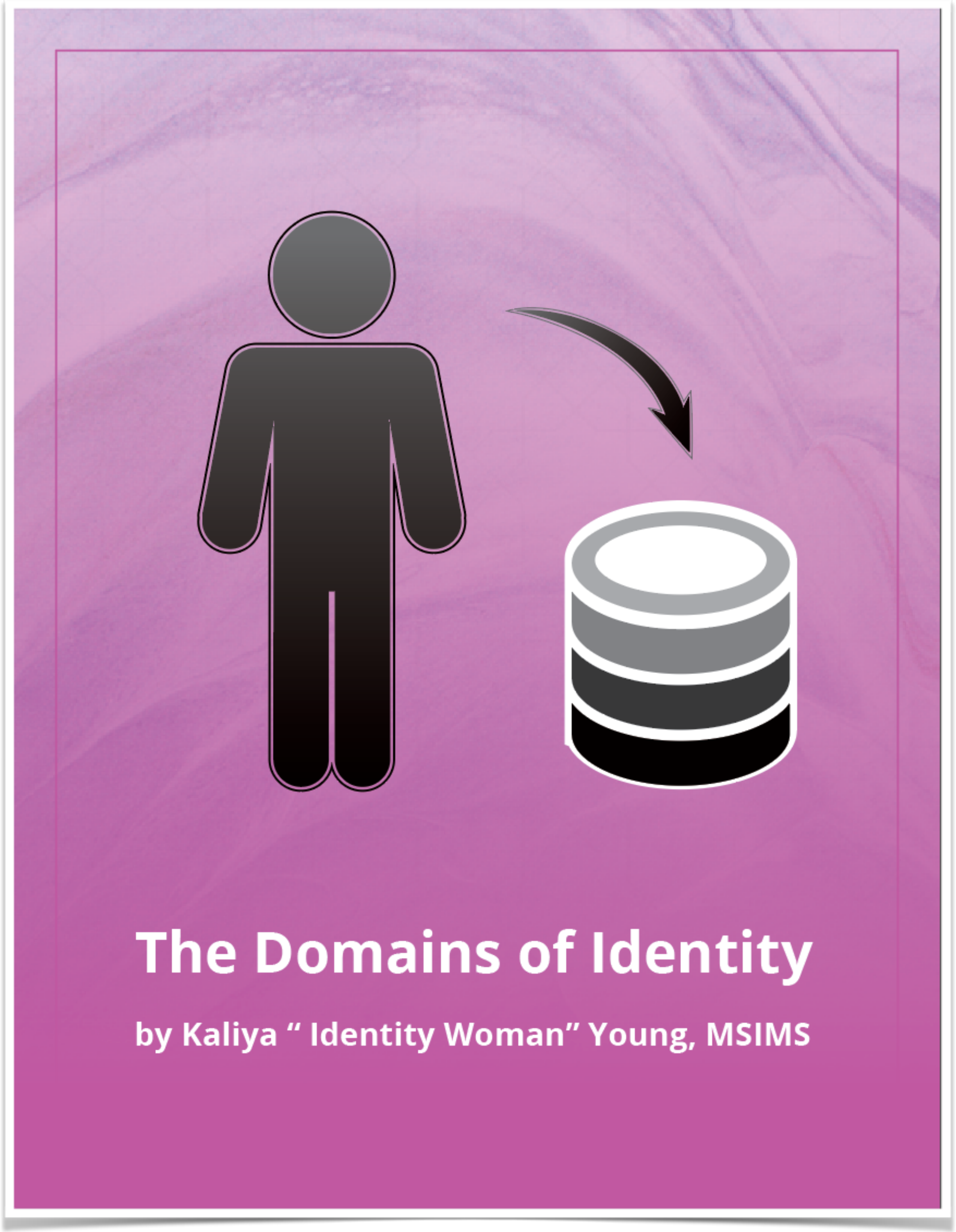
Infrequent
Yearly
Monthly
Weekly
Daily


Personal Data
Context
Location
Current
Planned Future
Past
People
Copresent
Physical World
Digital World
Interacted With
Events
Calendar Data
Event Data from Web Services
Objects
Copresent
Physical World
Digital World
Interacted With
Identity
Demographic
Age
Sex
Address
Profession
Identifiers
Name
User-Names
e-Mail Addresses
Phone Numbers
Nick Names
Personas
Device IDs
IP Addresses
Bluetooth IDs
SSID
IMEI
SIM
Interests
Declared
Likes
Favorites
Preferences
Asset Data
Virtual Goods
Identifiers
Domain Names
Handles (Twitter etc)
Objects
Gifts
Currencies
Financial Data
Income
Expenses
Transactions
Accounts
Tax Info
Assets
Liabilities
Insurace
Credit Rating
Physical Goods
Digital Records
Real Estate
Vehicles
Personal Effects
Art
Appliances
Relationships
Contacts
Address Book
Communications
Call Logs
Messaging Logs
Social Networks
Family
Geneology
ePortfolio
Academic
Exams
Student Projects
Transcripts
Degrees
Employment
Reviews
Actions
Promotions
Continuing Education
Government Records
Citizenship
Corporate
Boards of Directors
Law Enforcement Records
Public Records
Legal Name
Births
Deaths
Marriages
Divorces
Property Ownership
Health Data
Insurance
Claims
Payments
Coverage
Personal
Tracking Devices
Activity Records
Genetic Code
Patient
Prescriptions
Diagnosis
Device Logs
Measurement
Communications
Presence
Availability
Channels
Text
SMS
IM/Chat
e-mail
Attachments
Body
Status Updates
Social Media
Videos
Podcasts
Photos
Shared
Produced Music
Links
Bookmarks
Speech
Voice Calls
Voice Mails
Activity
Browser
Clicks
Keystrokes
Sites Visited
Queries
Bookmarks
Client Apps
Physical World
Eating
Drinking
Driving
Shopping
Sleeping
Operating System
Content
Private Documents
Word Processing
Spreadsheets
Project Plans
Presentations
Consumed Media
Books
Photos
Videos
Podcasts
Music
Audio Books
Games
Software/Apps

Its Everyone, Everywhere

https://www.flickr.com/photos/nasamarshall/3945024874

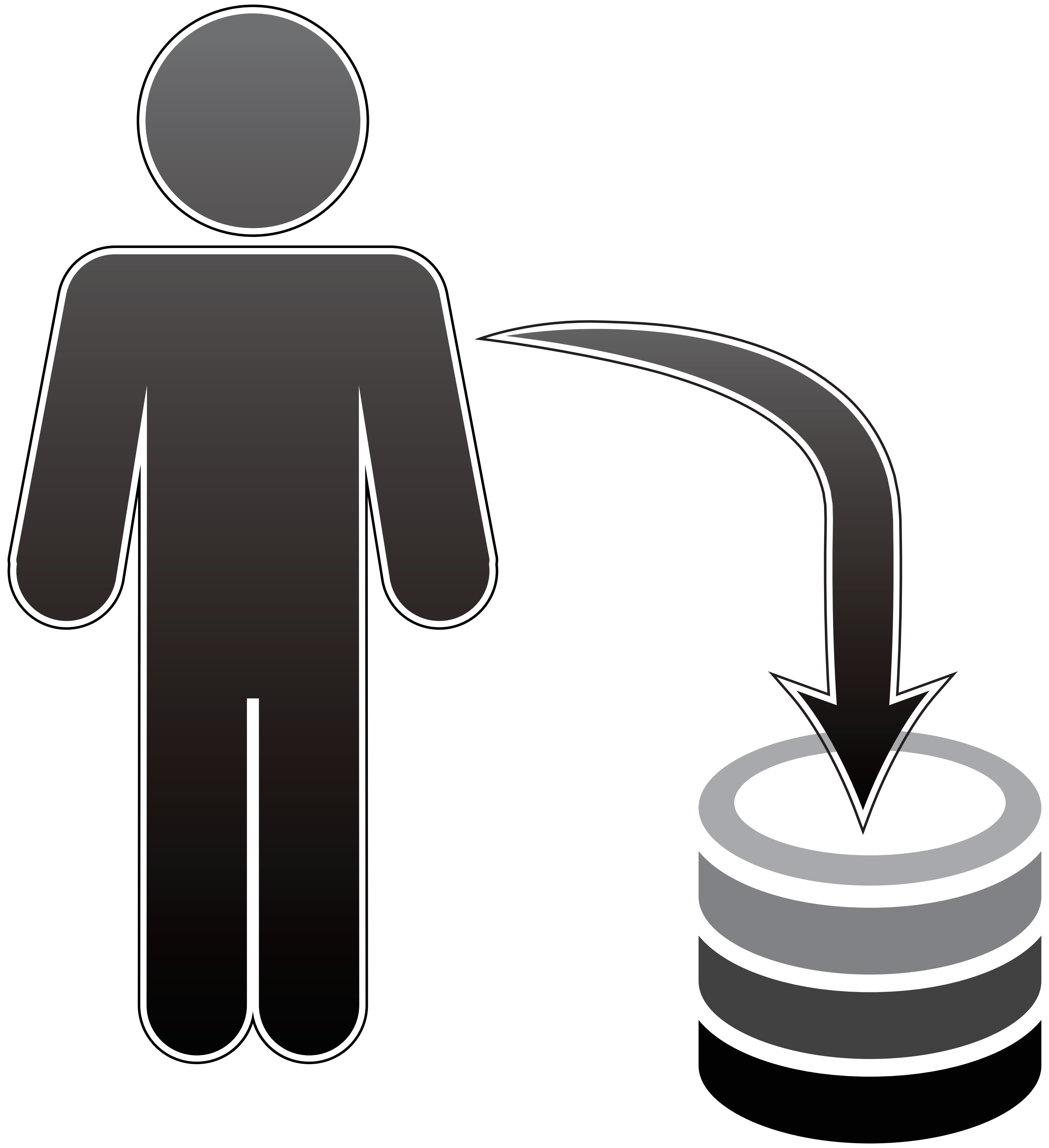
What are all the different places that PII ends up in databases?



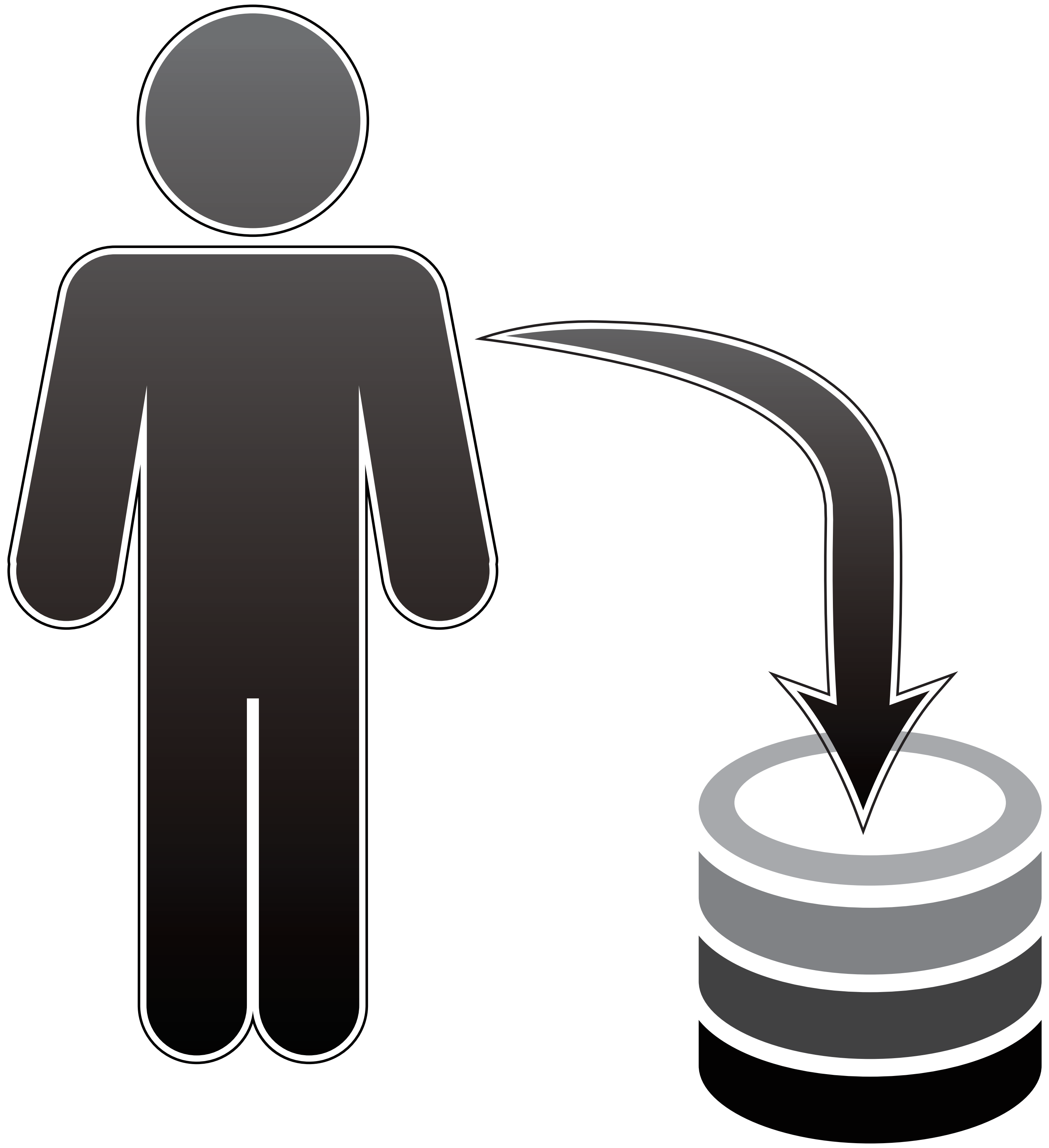
The Domains of Identity

by Kaliya " Identity Woman" Young, MSIMS

1. Me and My Identity

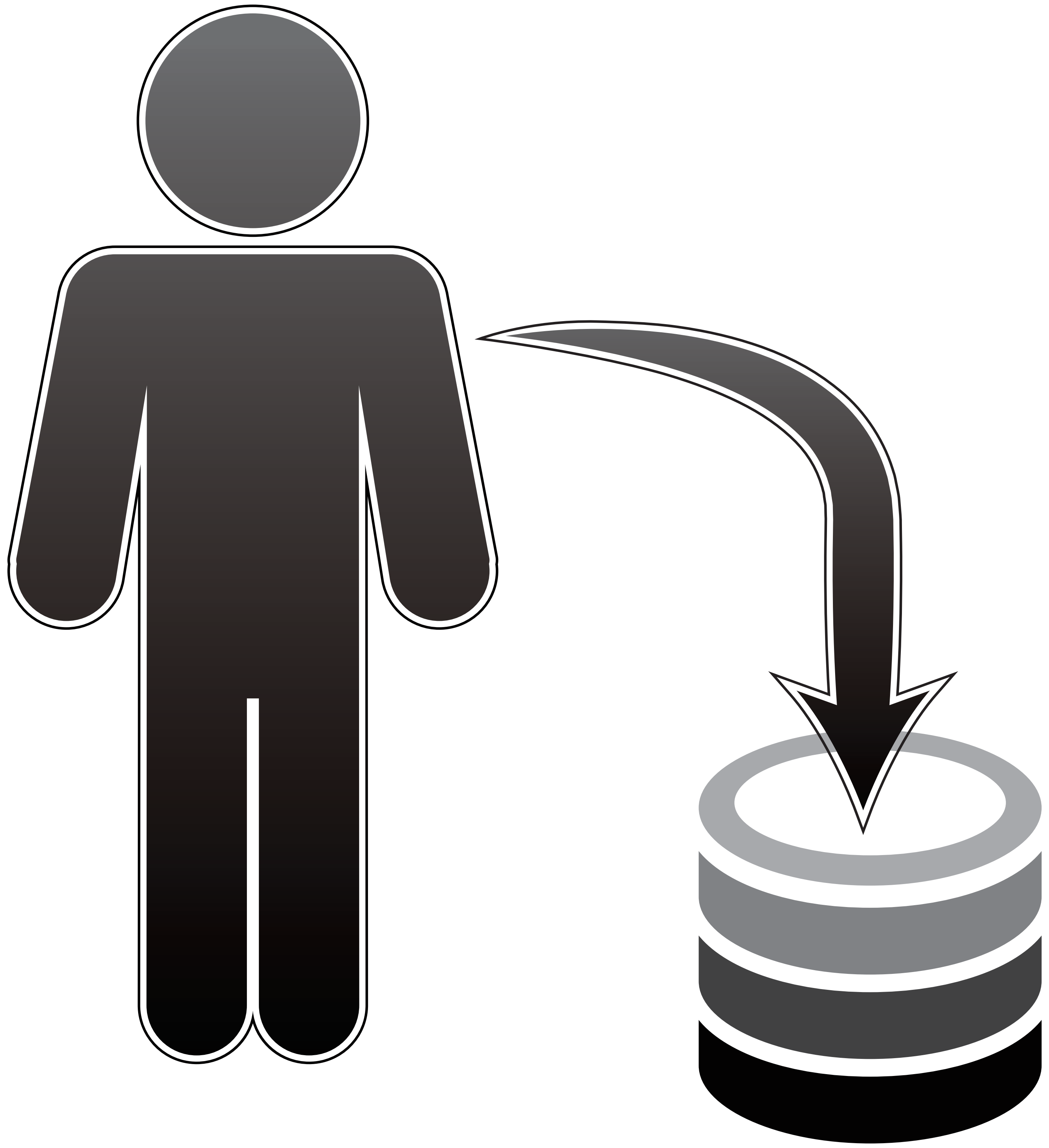


1. Me and My Identity



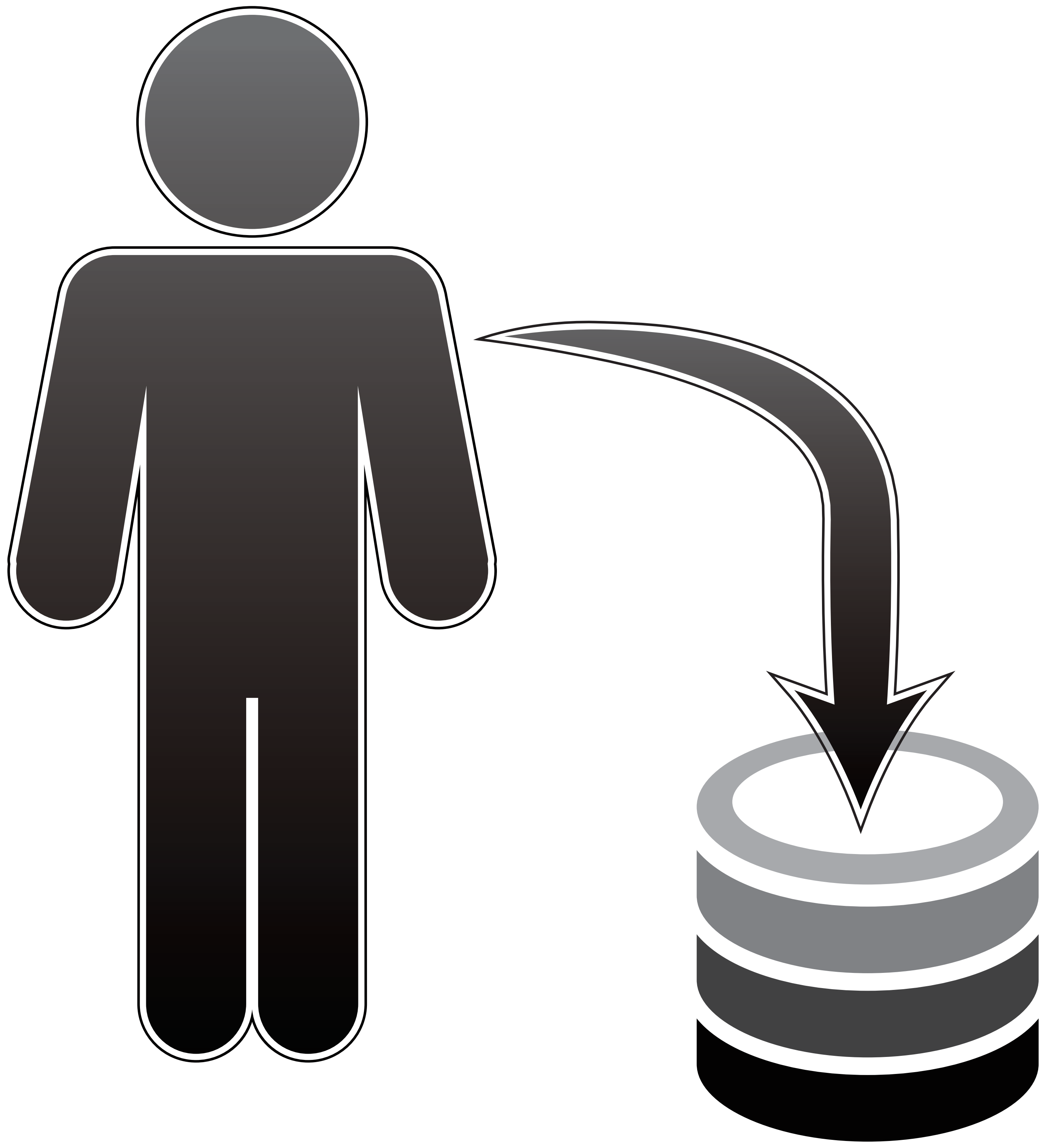
MyData

1. Me and My Identity

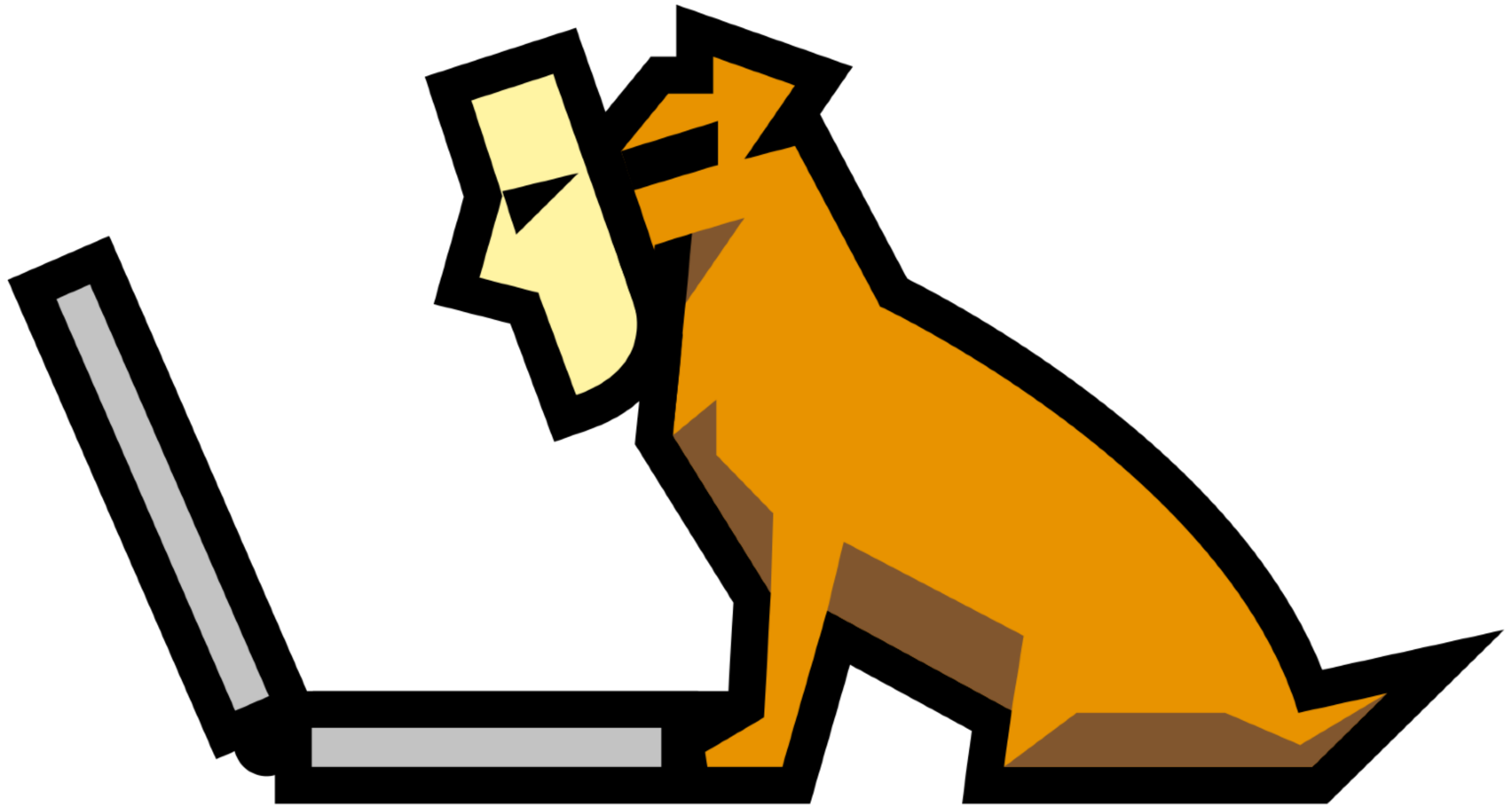


Quantified Self Movement

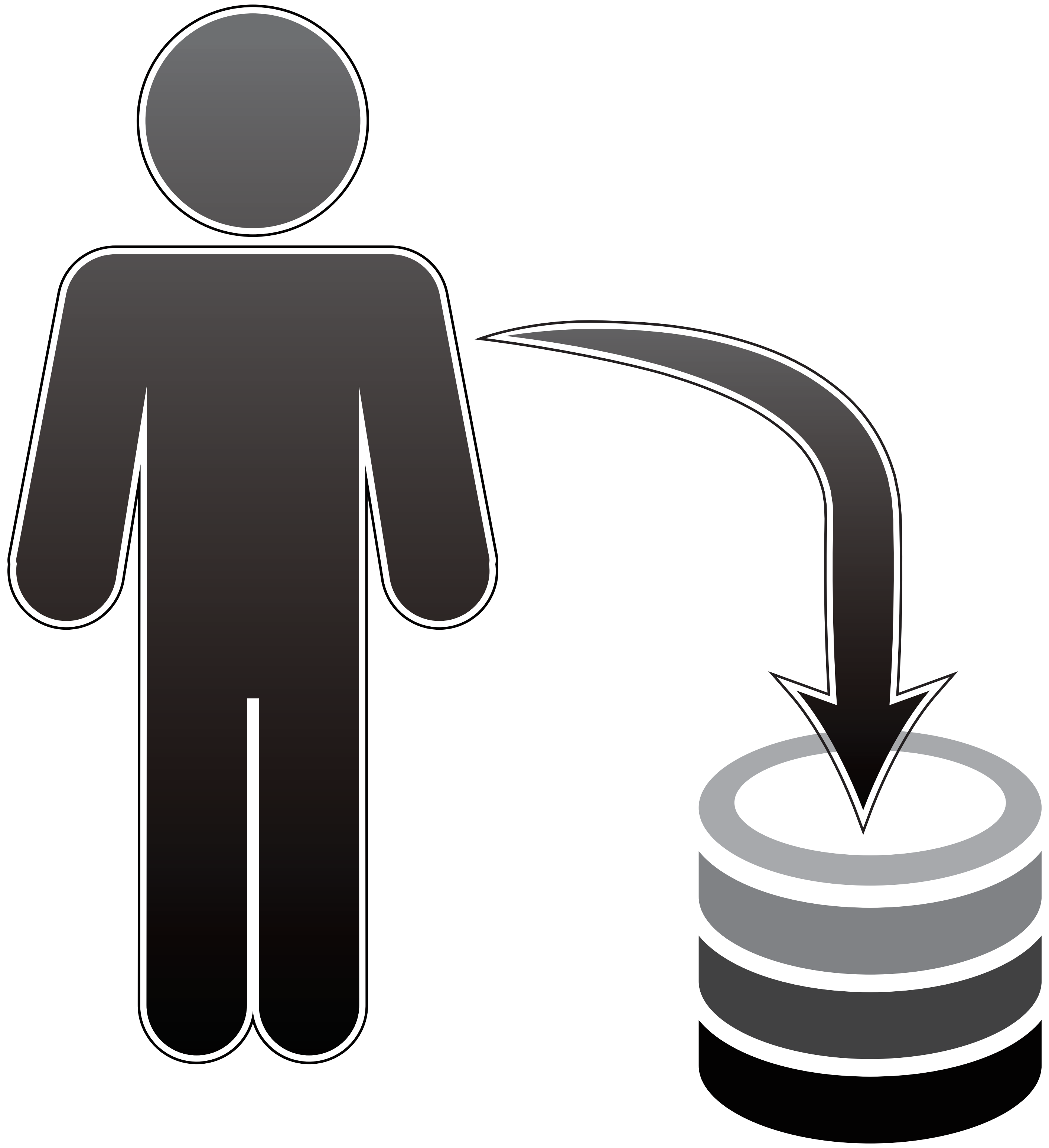
1. Me and My Identity

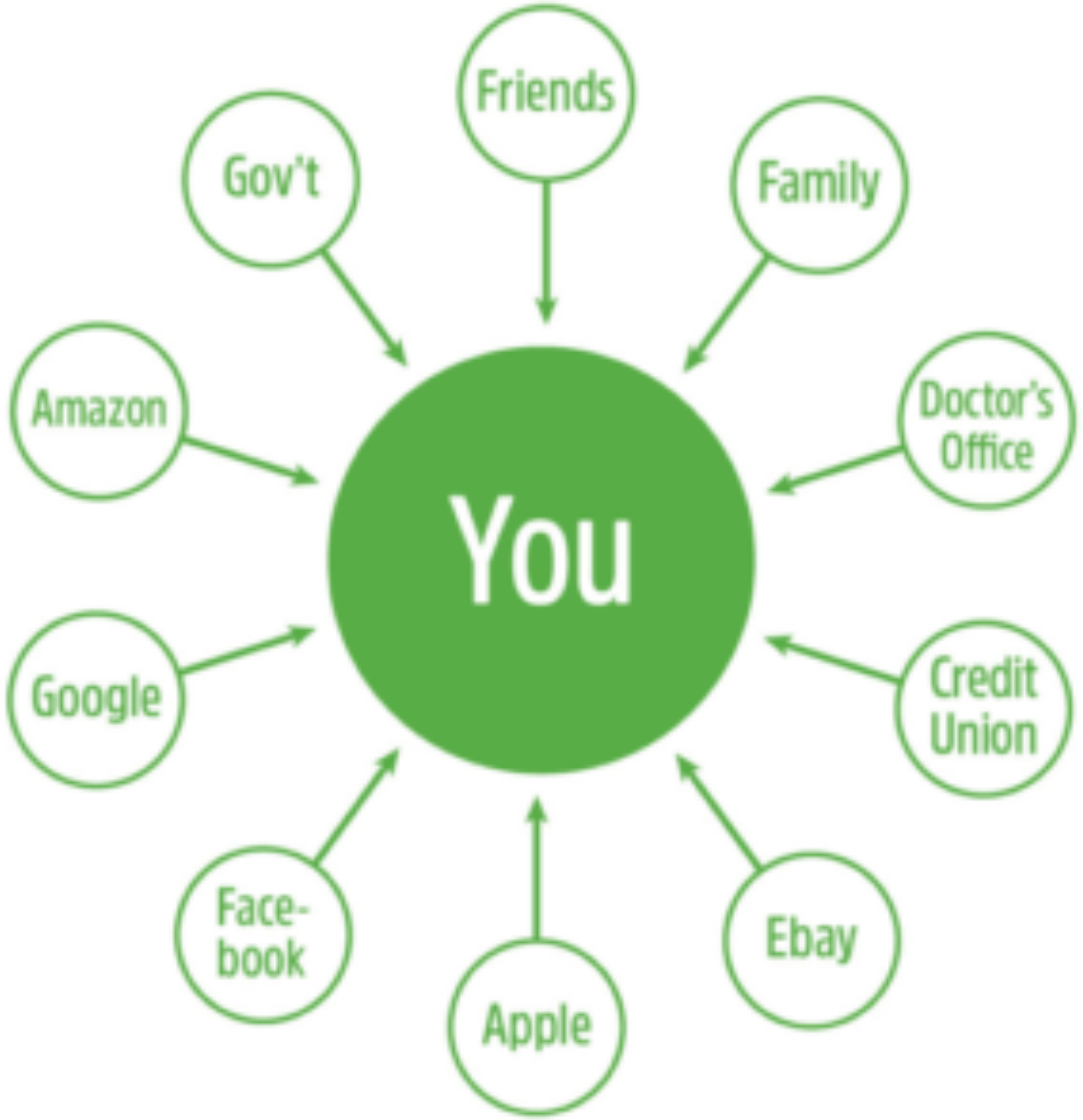


User-Centric Digital Identity



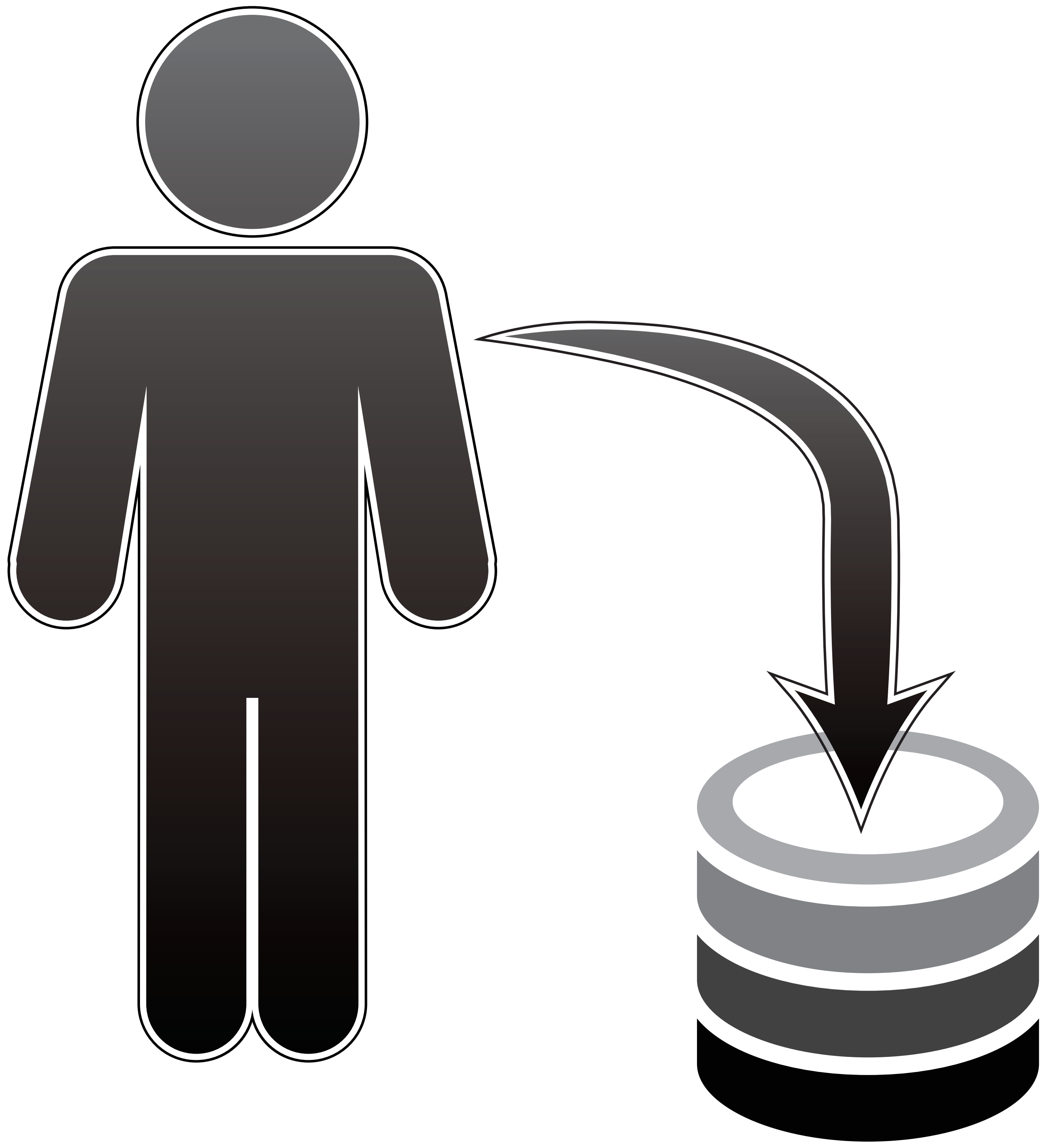
1. Me and My Identity





Self-Sovereign Identity

1. Me and My Identity

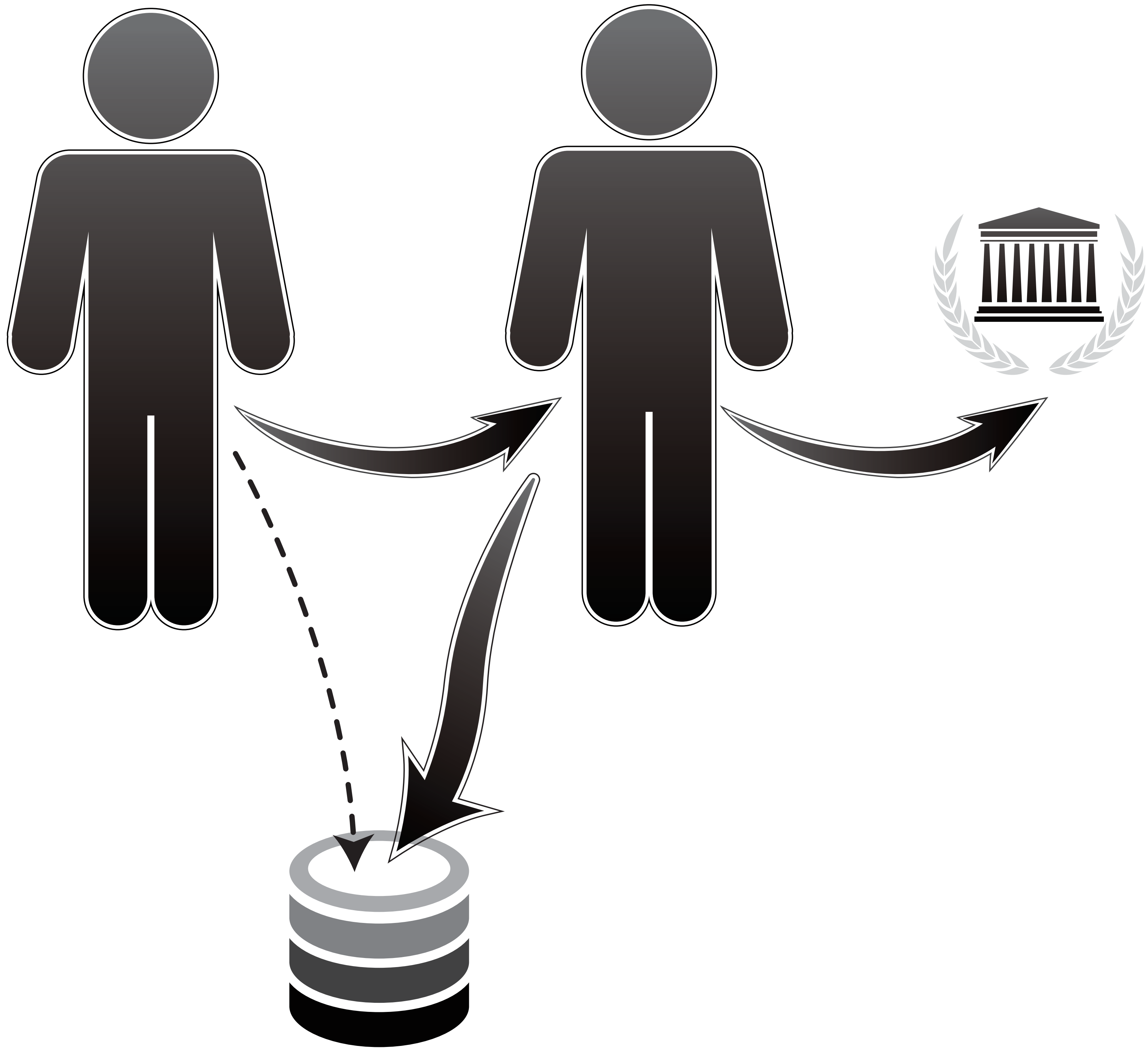


Elders

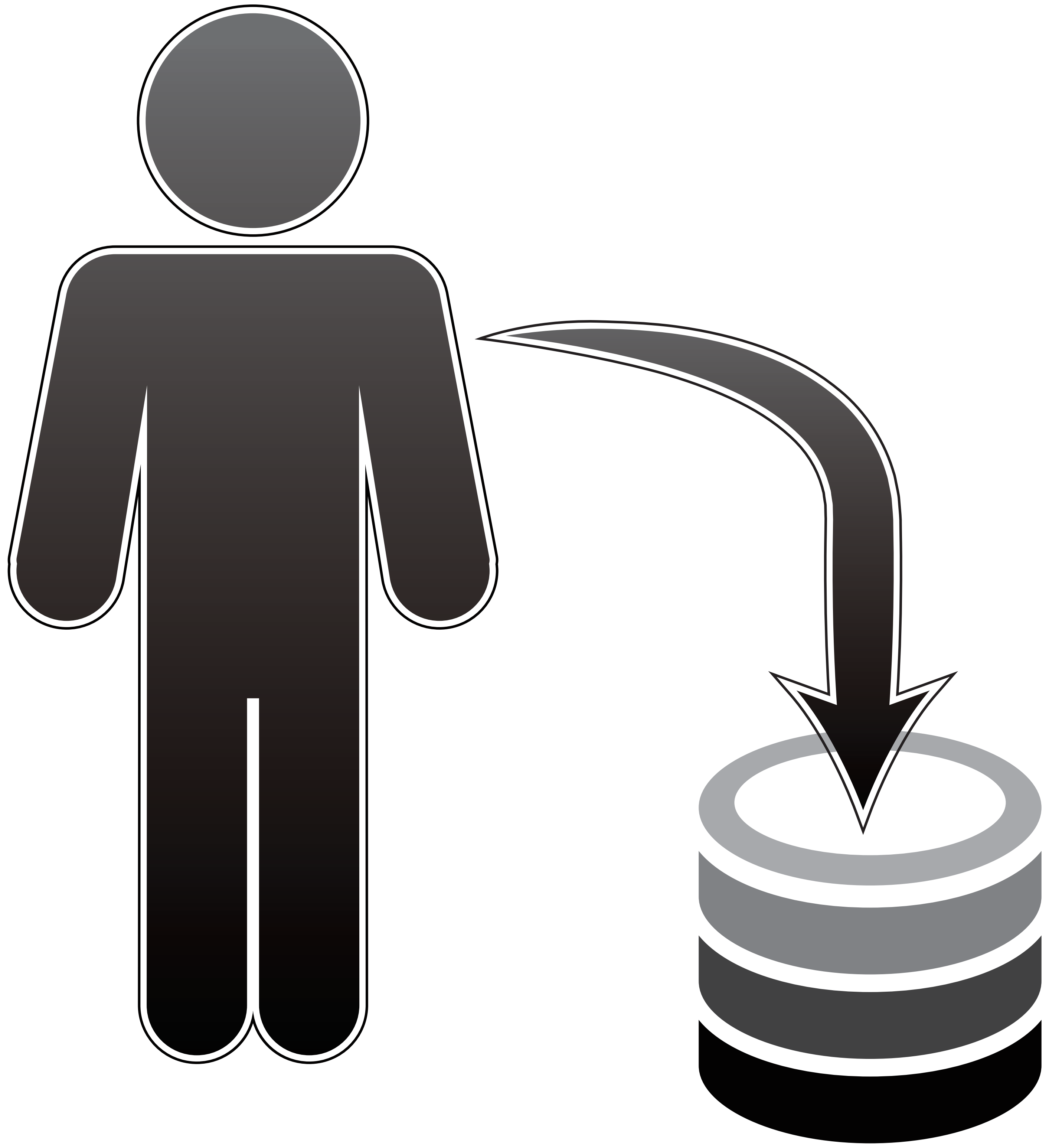
Children

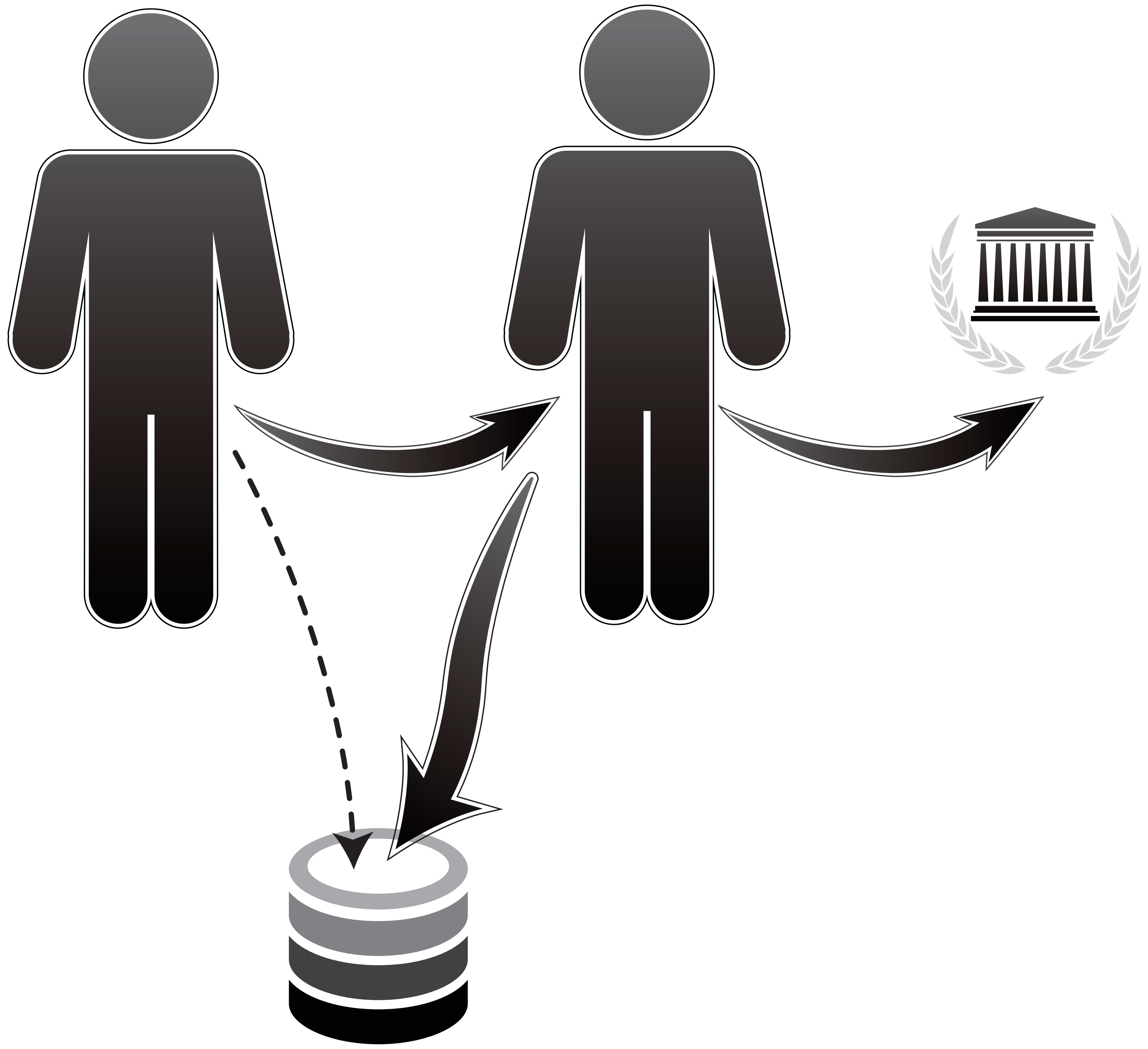
2. You and My Identity

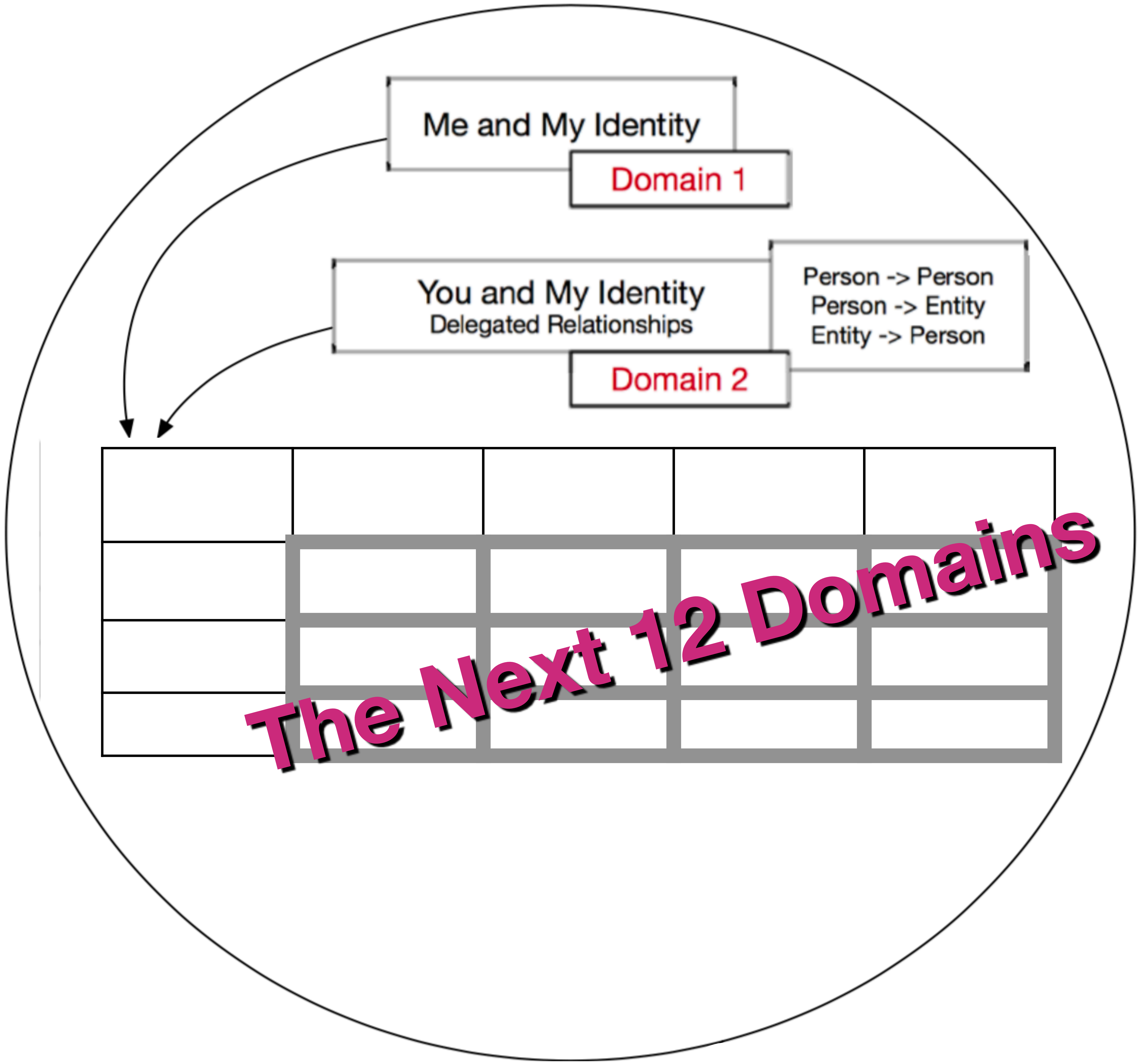
Delegated Relationships



These are the source of data in the interactions with the next 12 domains.







Me and My Identity

Domain 1

You and My Identity

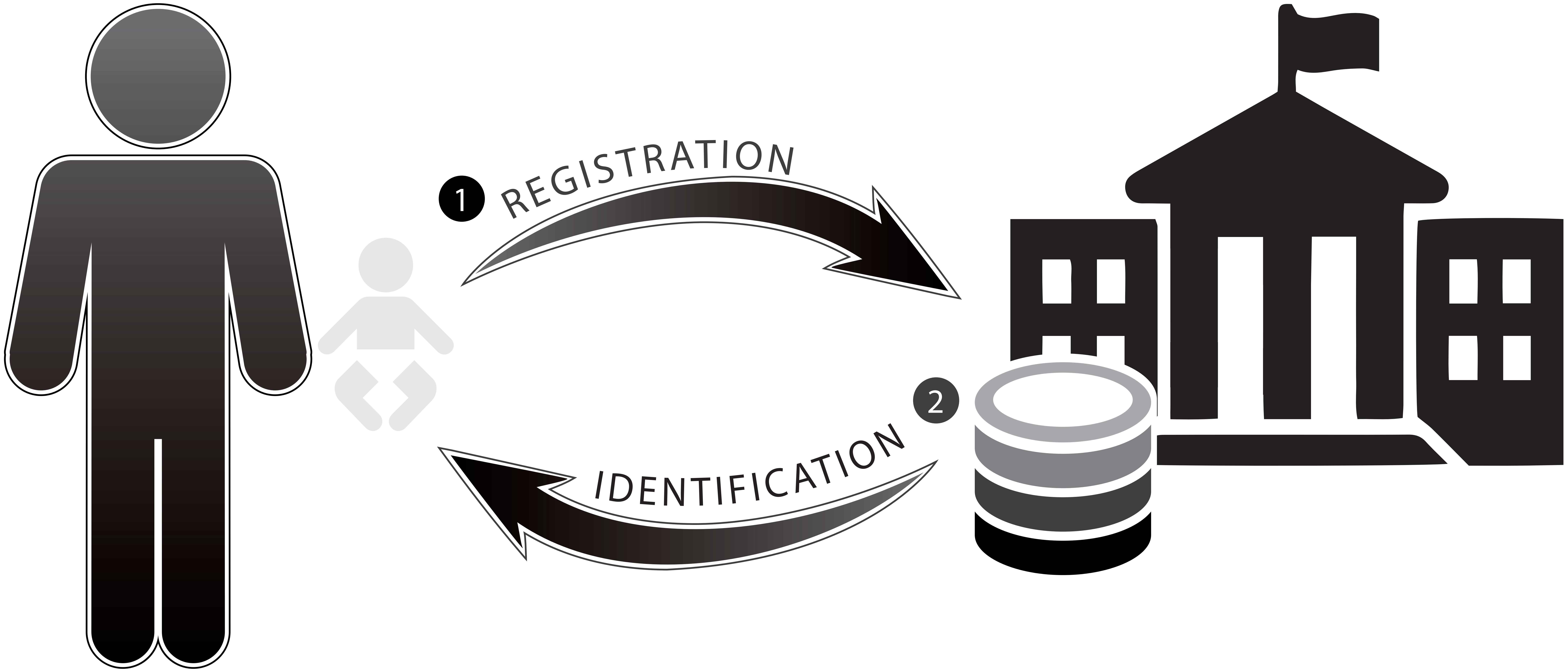
Delegated Relationships

Domain 2

Person -> Person
Person -> Entity
Entity -> Person

The Next 12 Domains

3. Government Registration



Government Registration

Primary Registration

Done by Parents for their Children

Government Registration

Primary Registration

Done by Parents for their Children

Secondary Registration

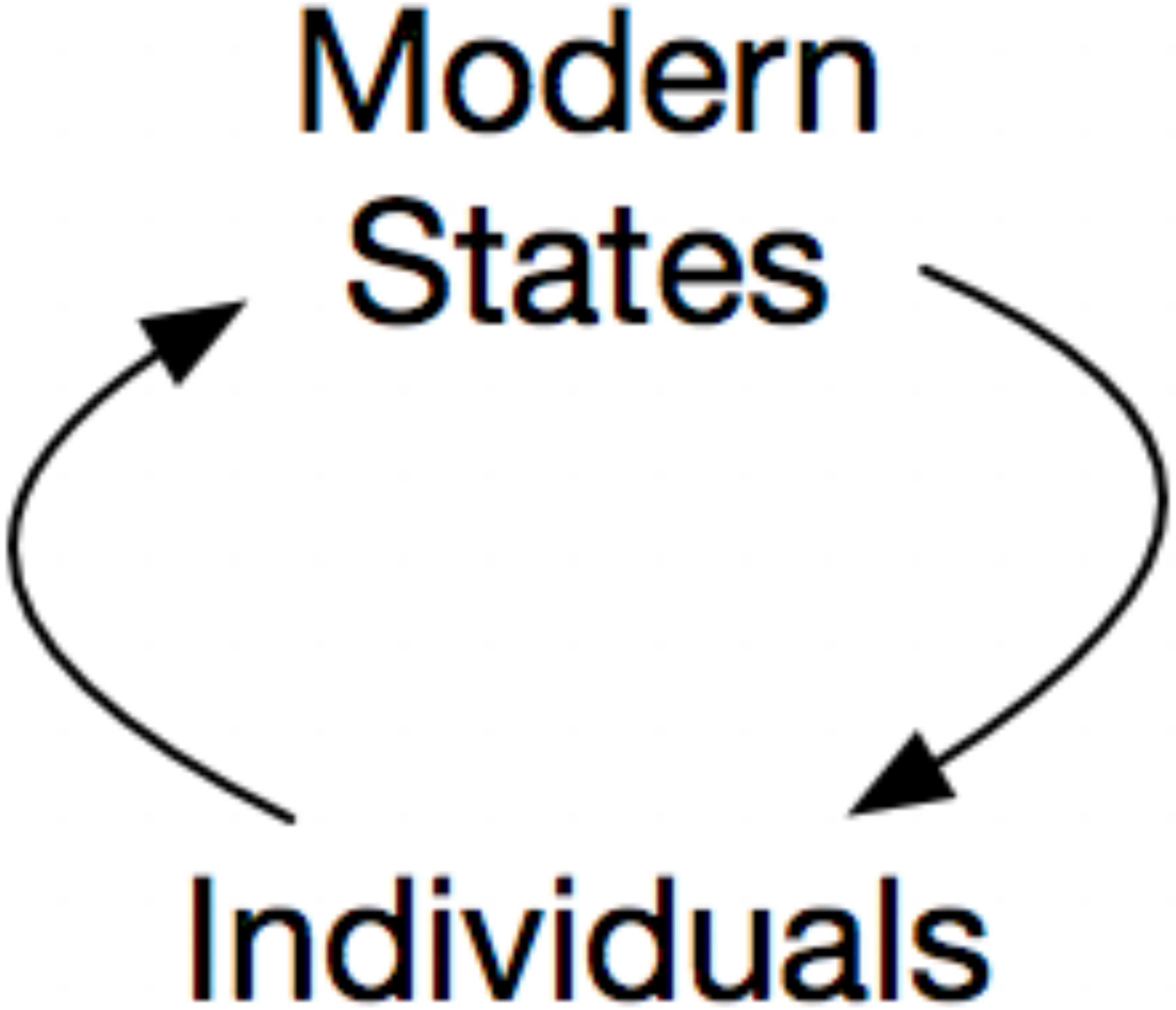
Done by Subjects for themselves
Using Documents from Primary Registration

3. Government Registration

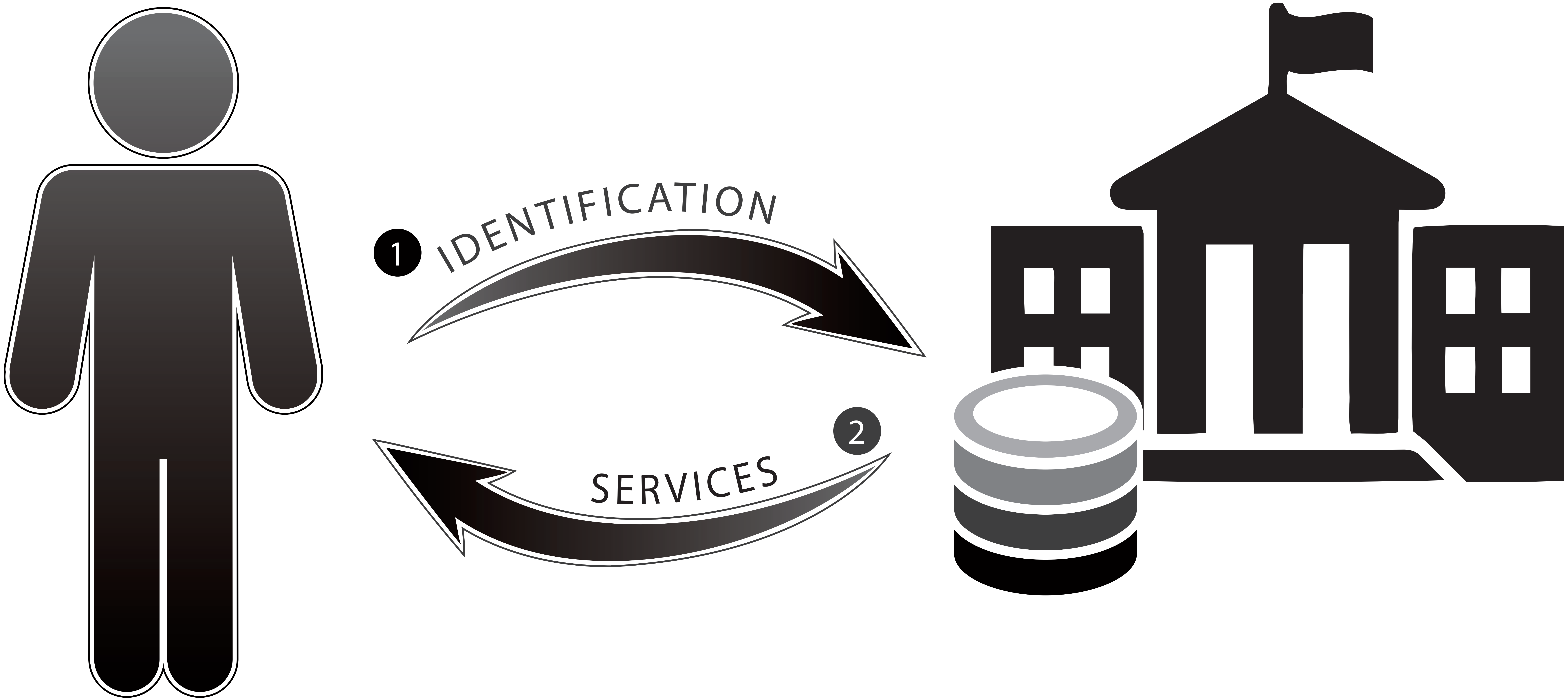
All the systems and processes are very recent inventions.

Most are less then 100 yrs old

3. Government Registration



4. Government Transactions

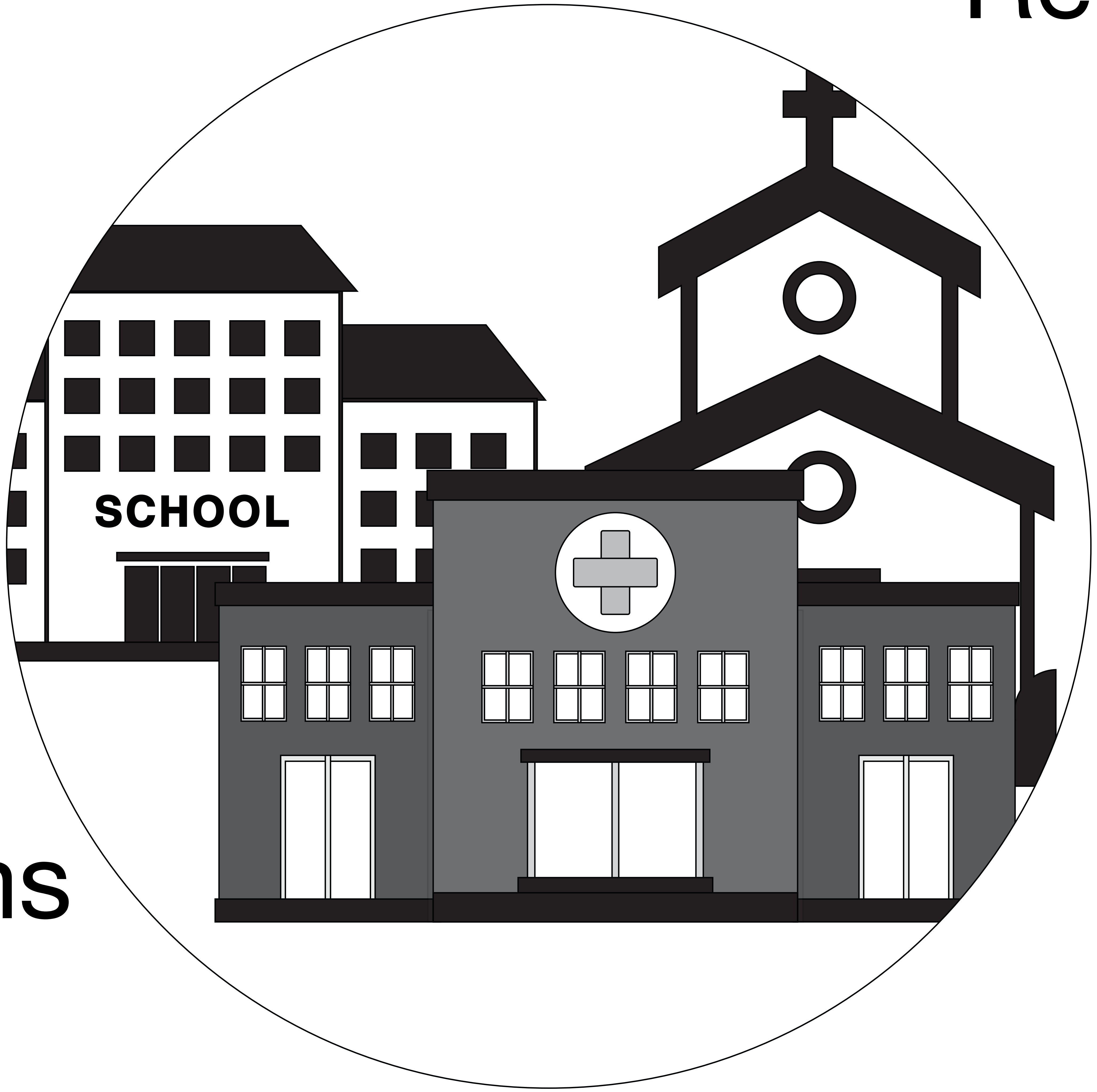


Civil Society

Education

Health Care

Sports Teams



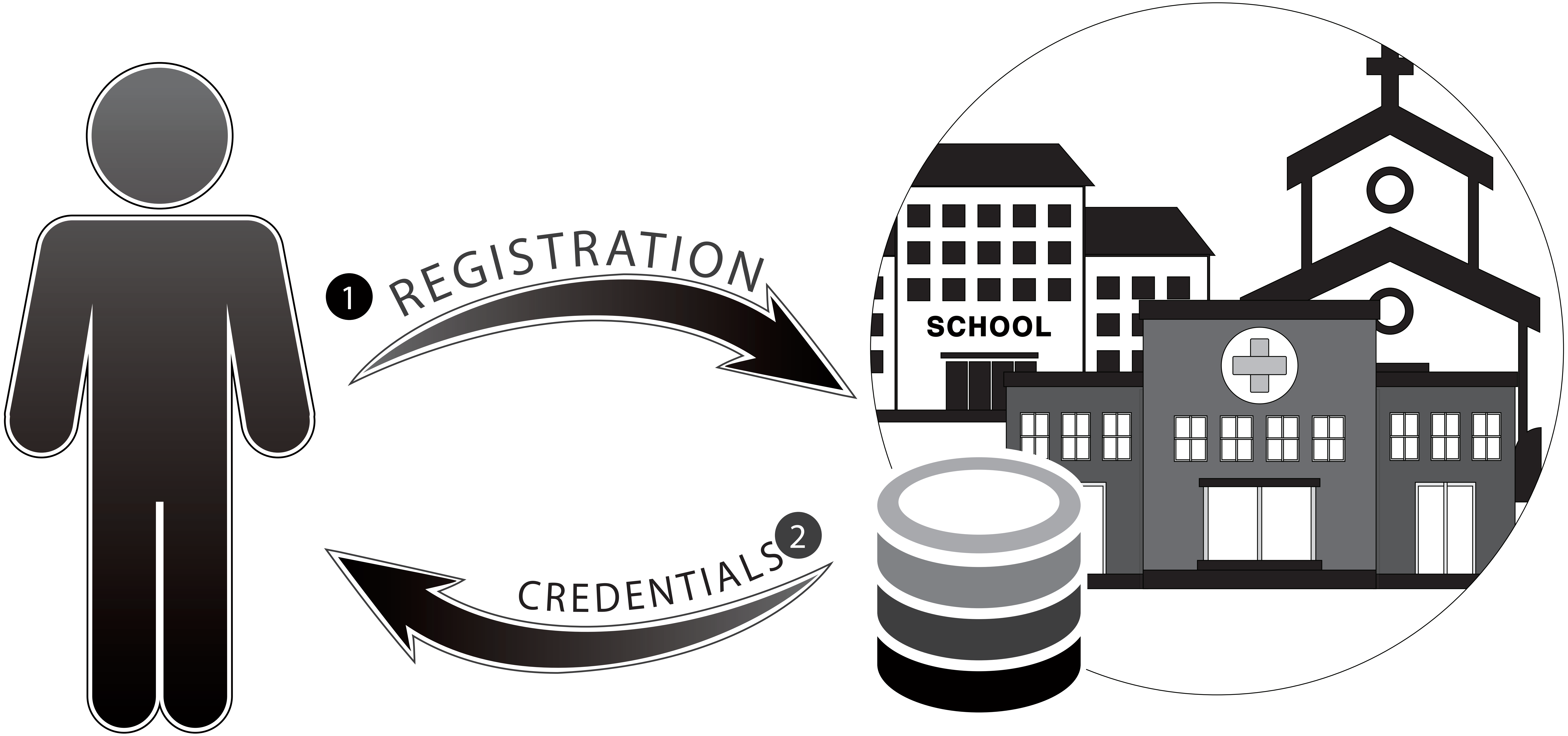
Religious Institutions

Union Membership

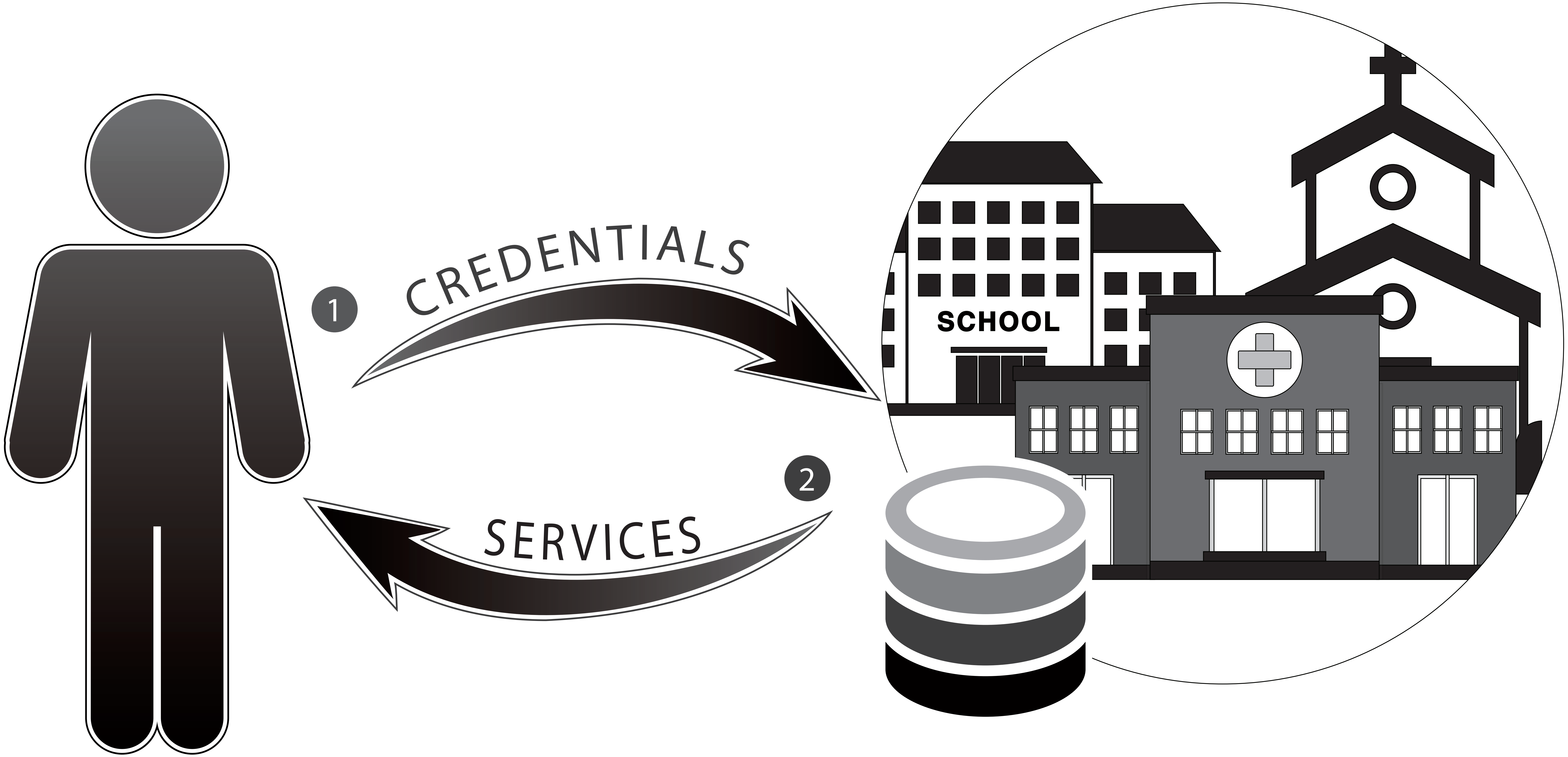
Civic Participation

Professional Associations

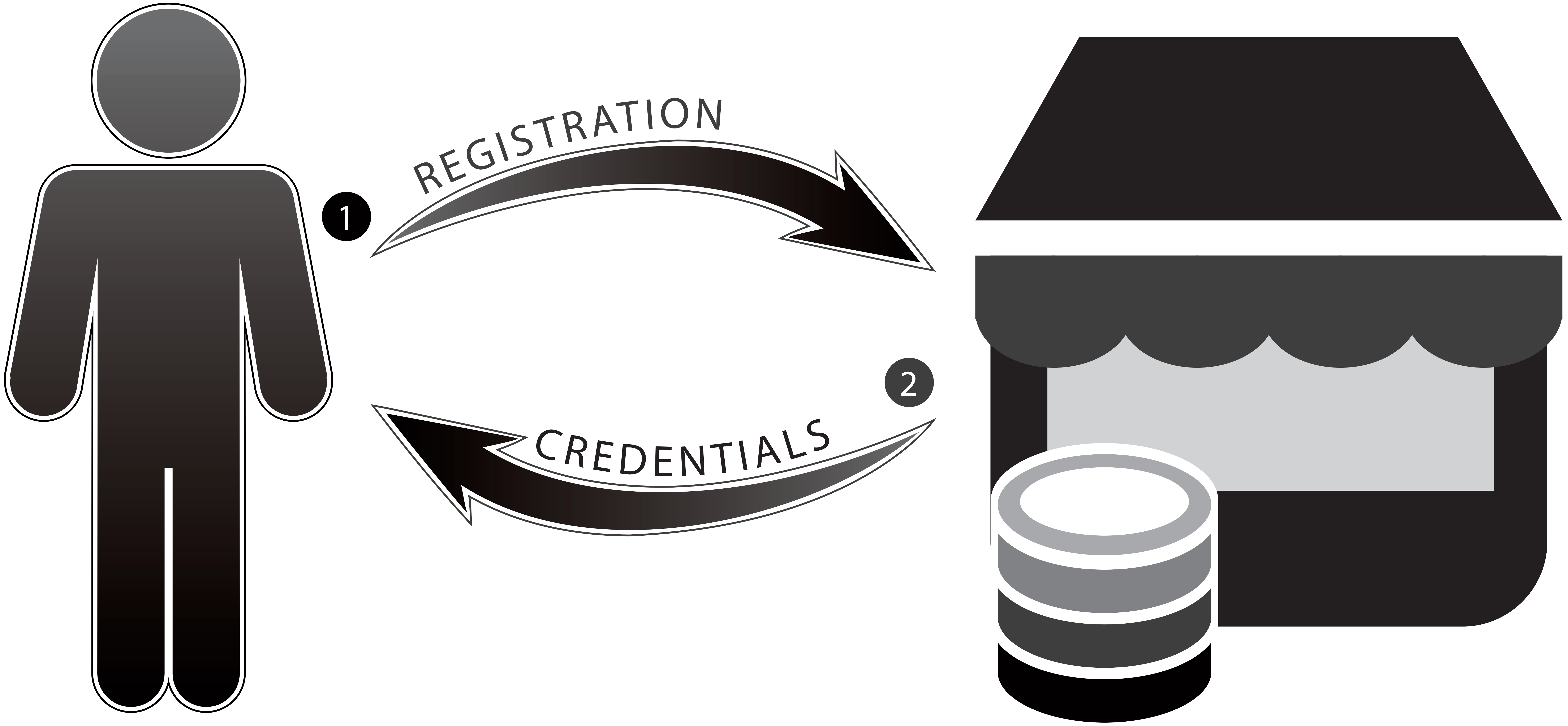
5. Civil Society Registration



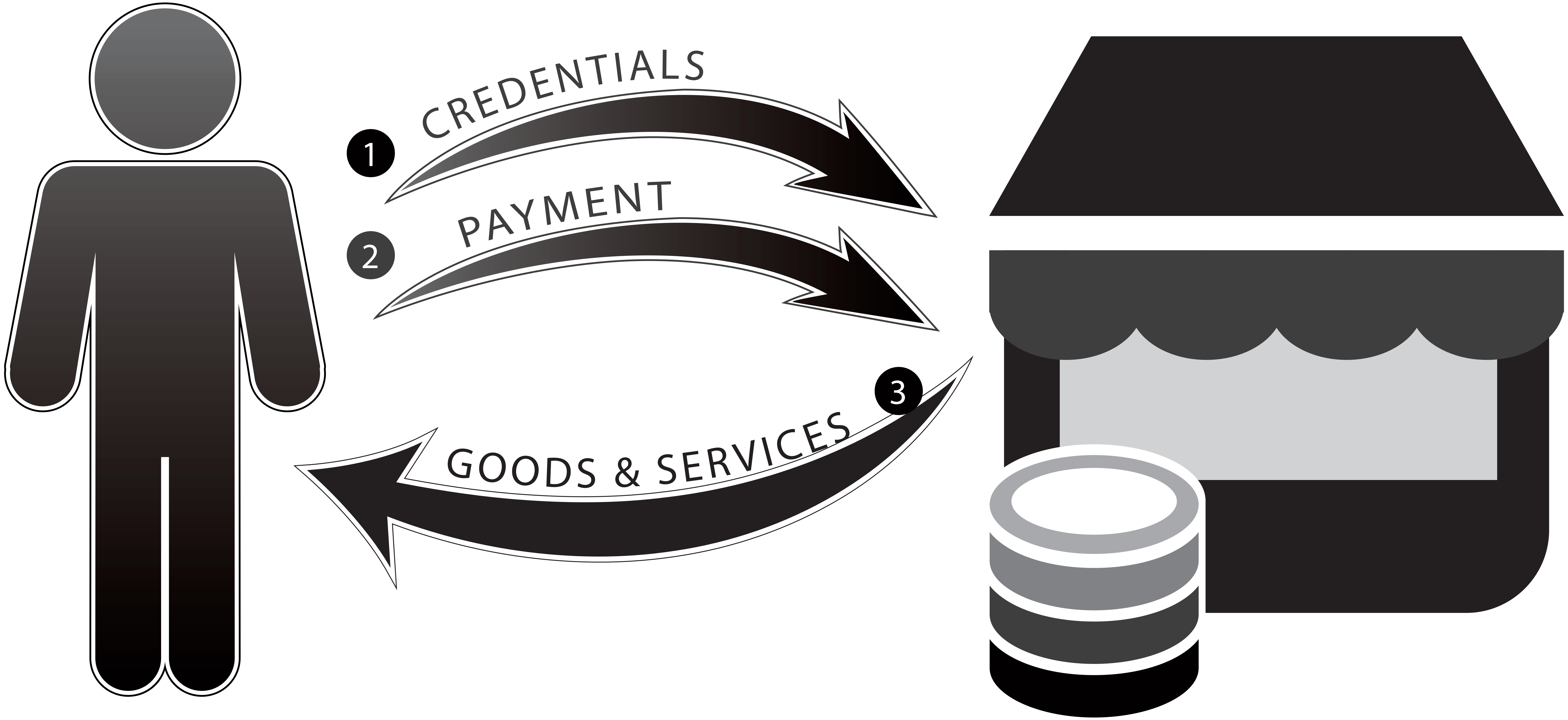
6. Civil Society Transaction



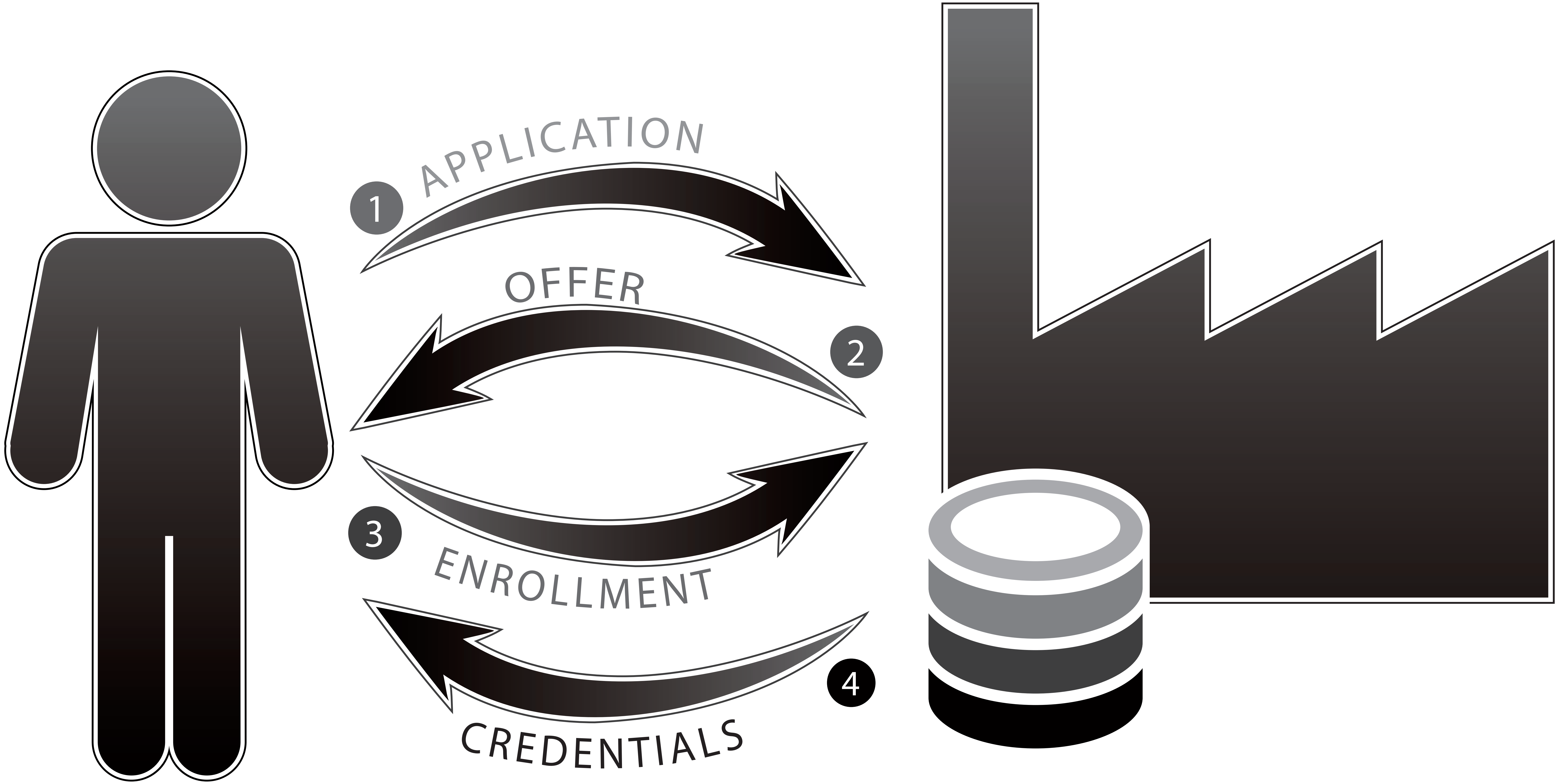
7. Commercial Registration



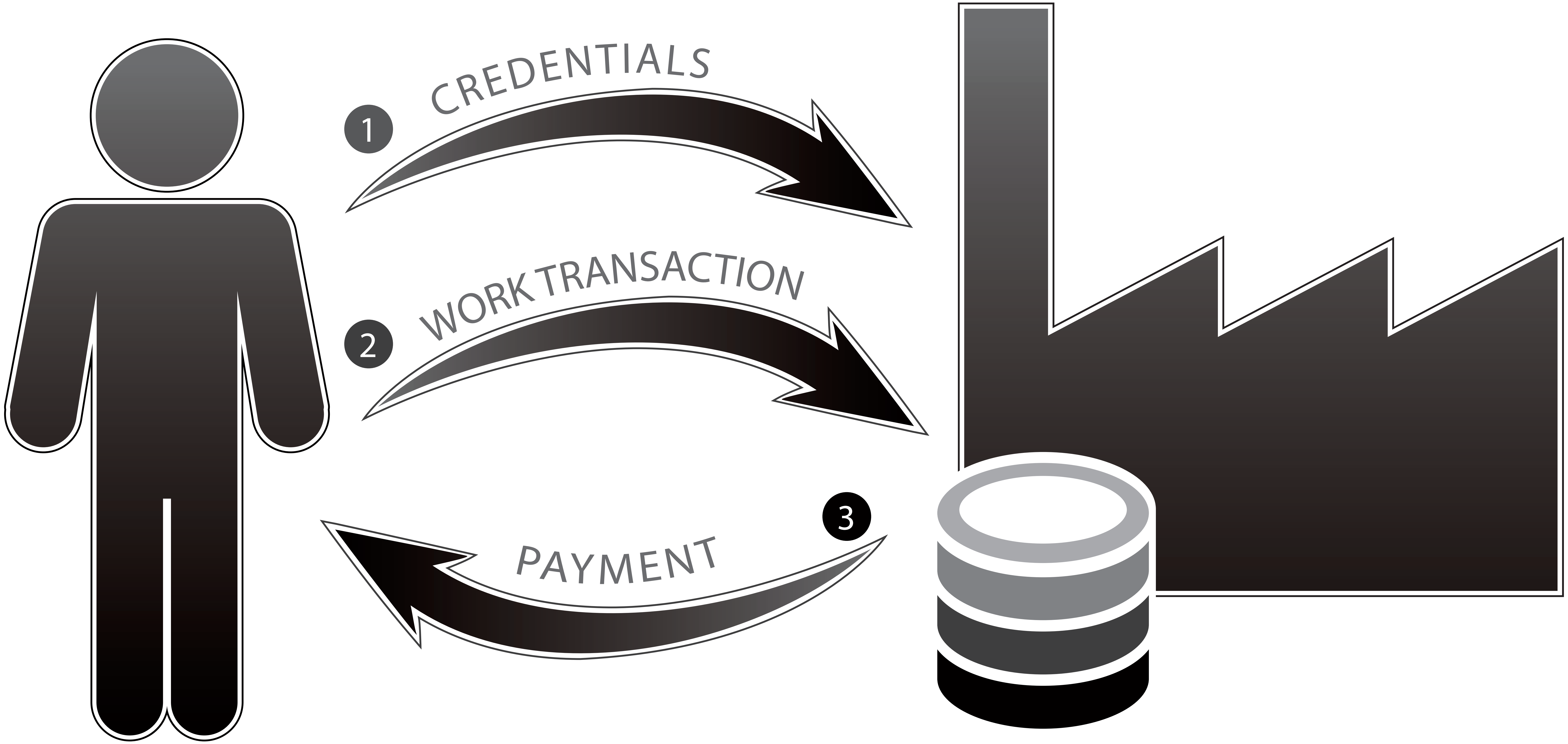
8. Commercial Transaction



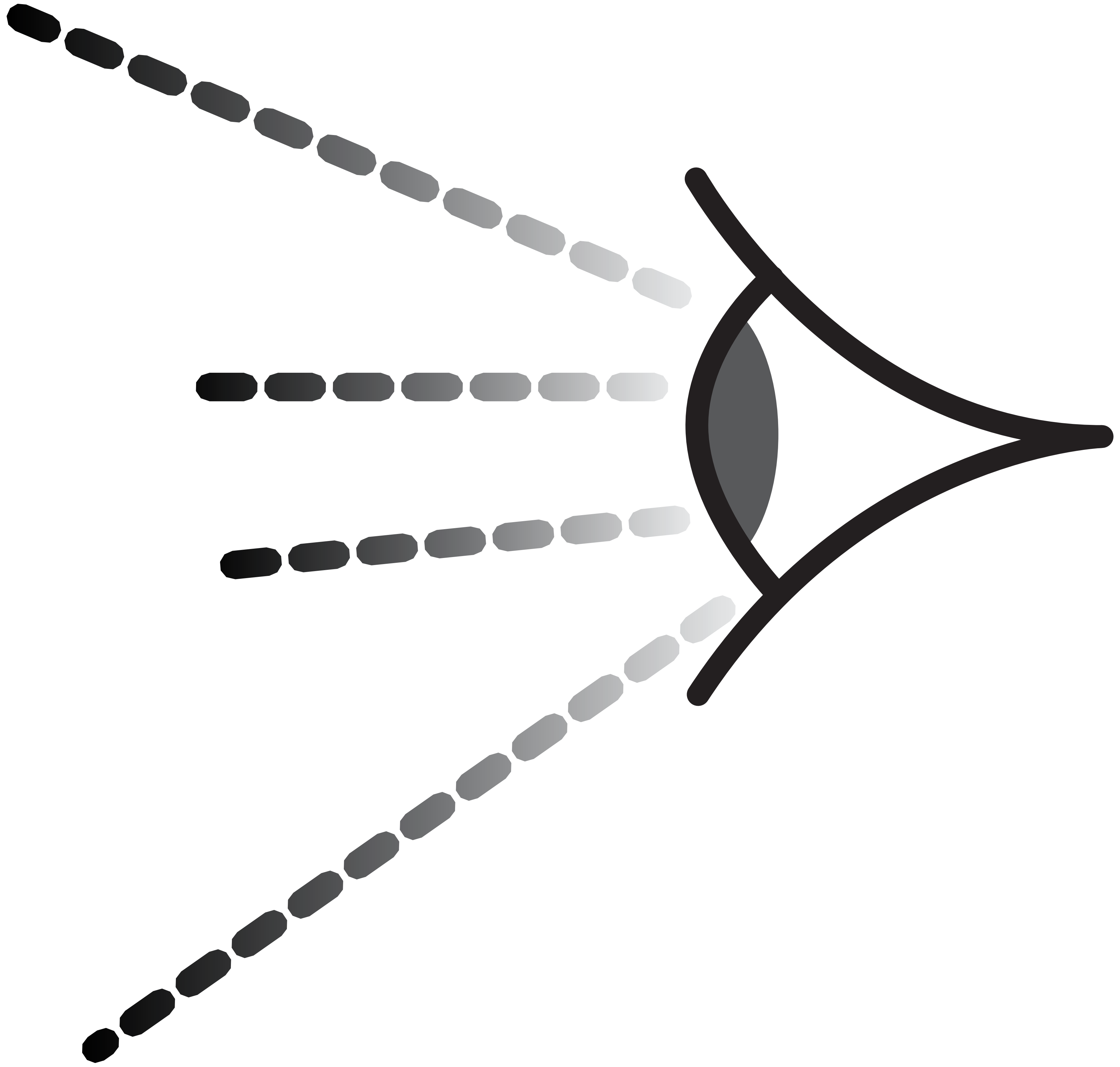
12. Employment Registration



13. Employment Transactions



Surveillance



Surveillance

1) Voluntary Known

Surveillance

1) Voluntary Known

2) Involuntary Known

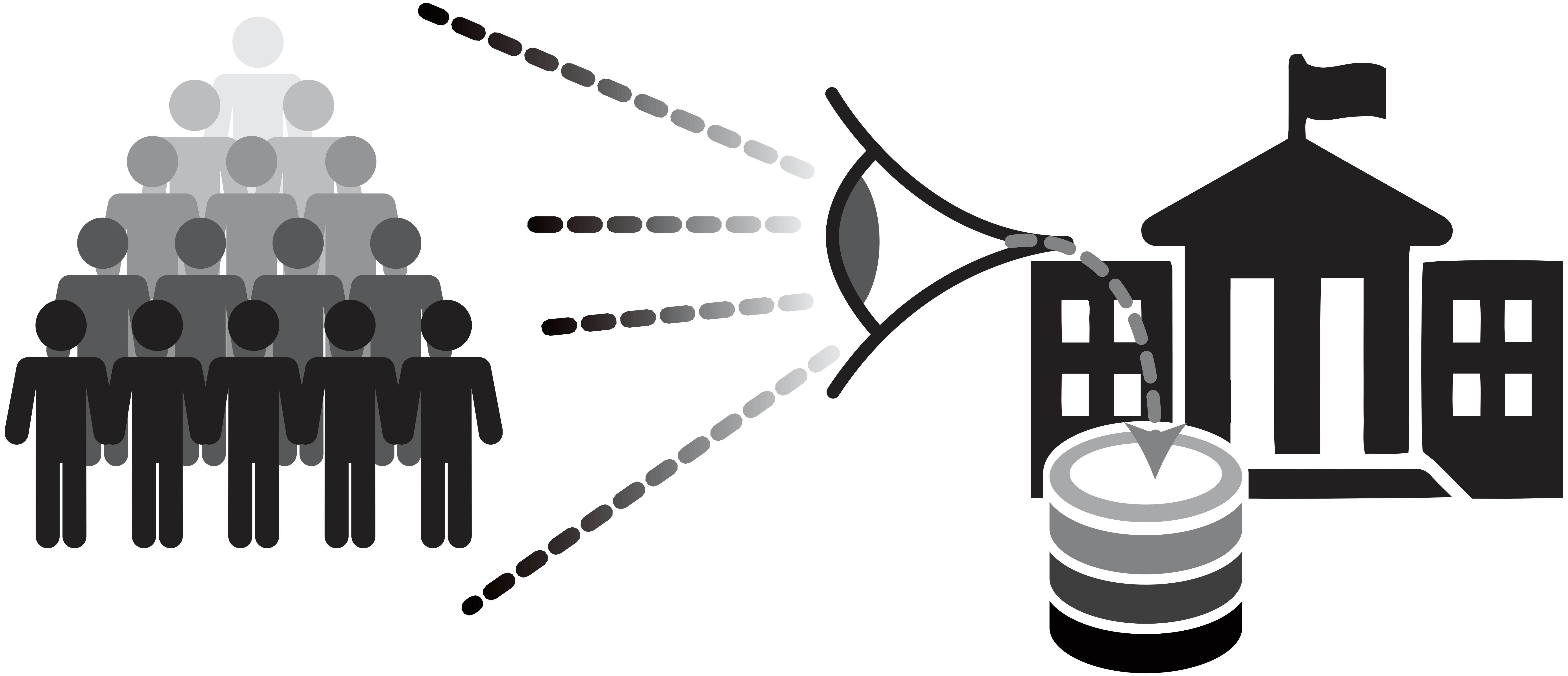
Surveillance

1) Voluntary Known

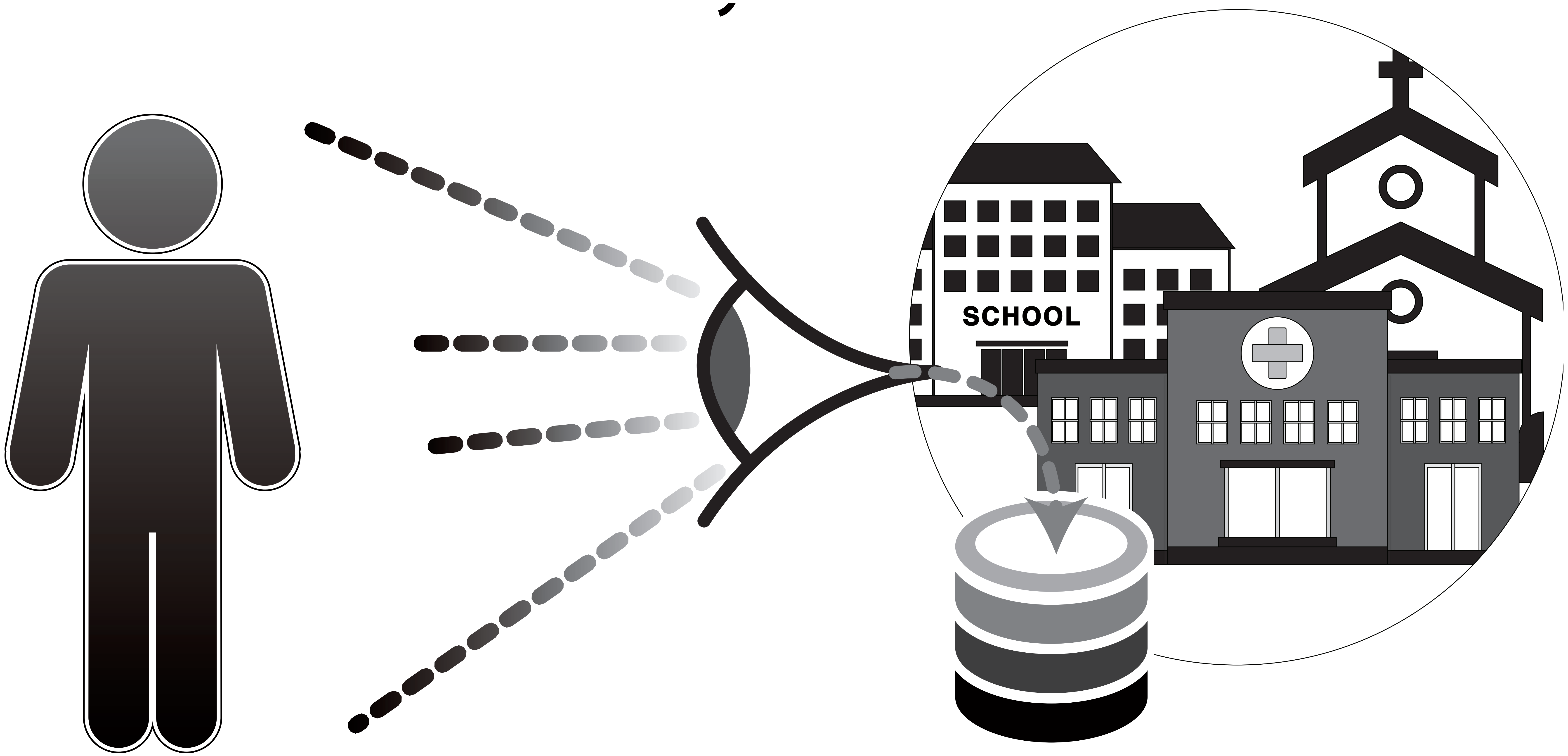
2) Involuntary Known

3) Involuntary Unknown

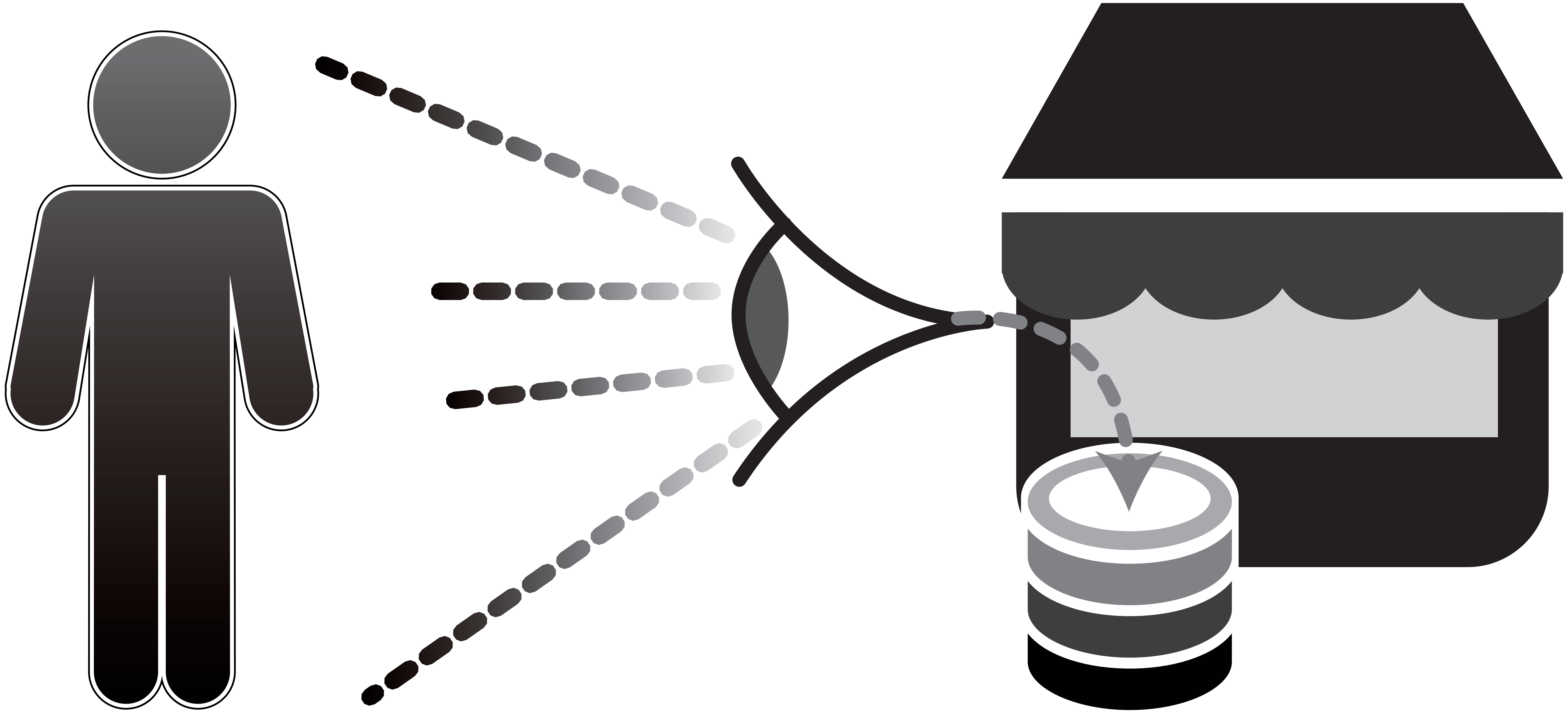
9. Government Surveillance



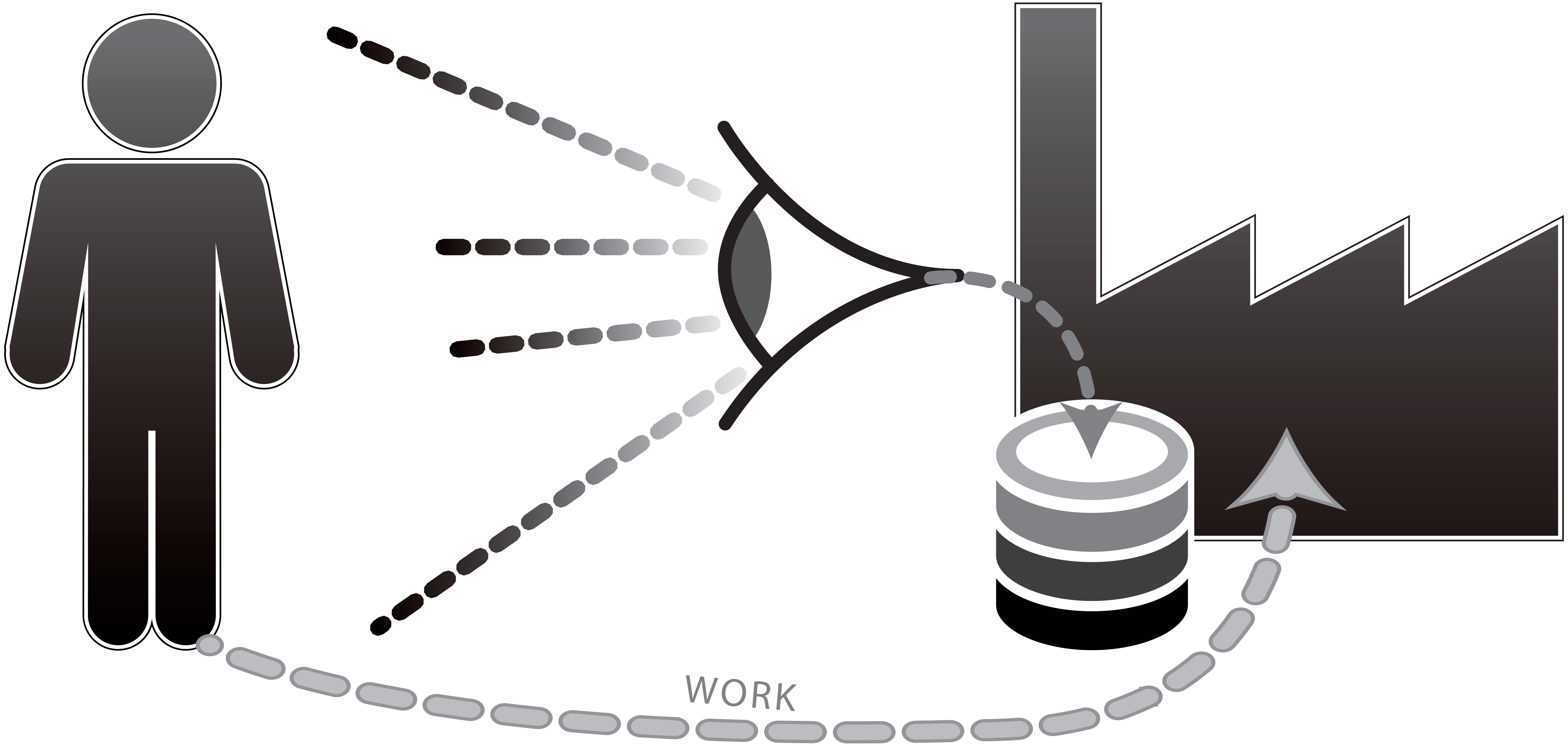
10. Civil Society Surveillance

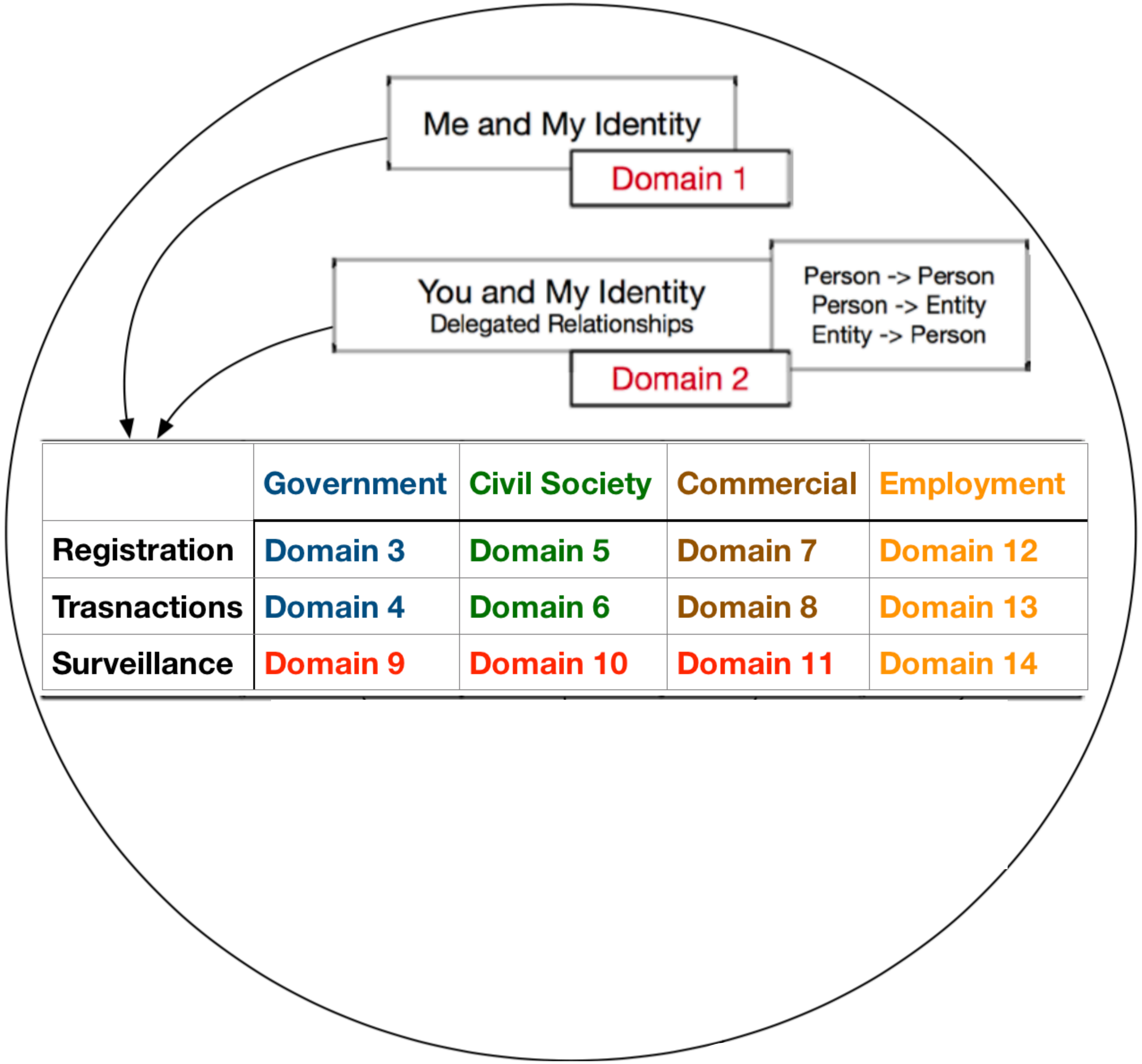


11. Commercial Surveillance



14. Employment Surveillance





Me and My Identity

Domain 1

You and My Identity

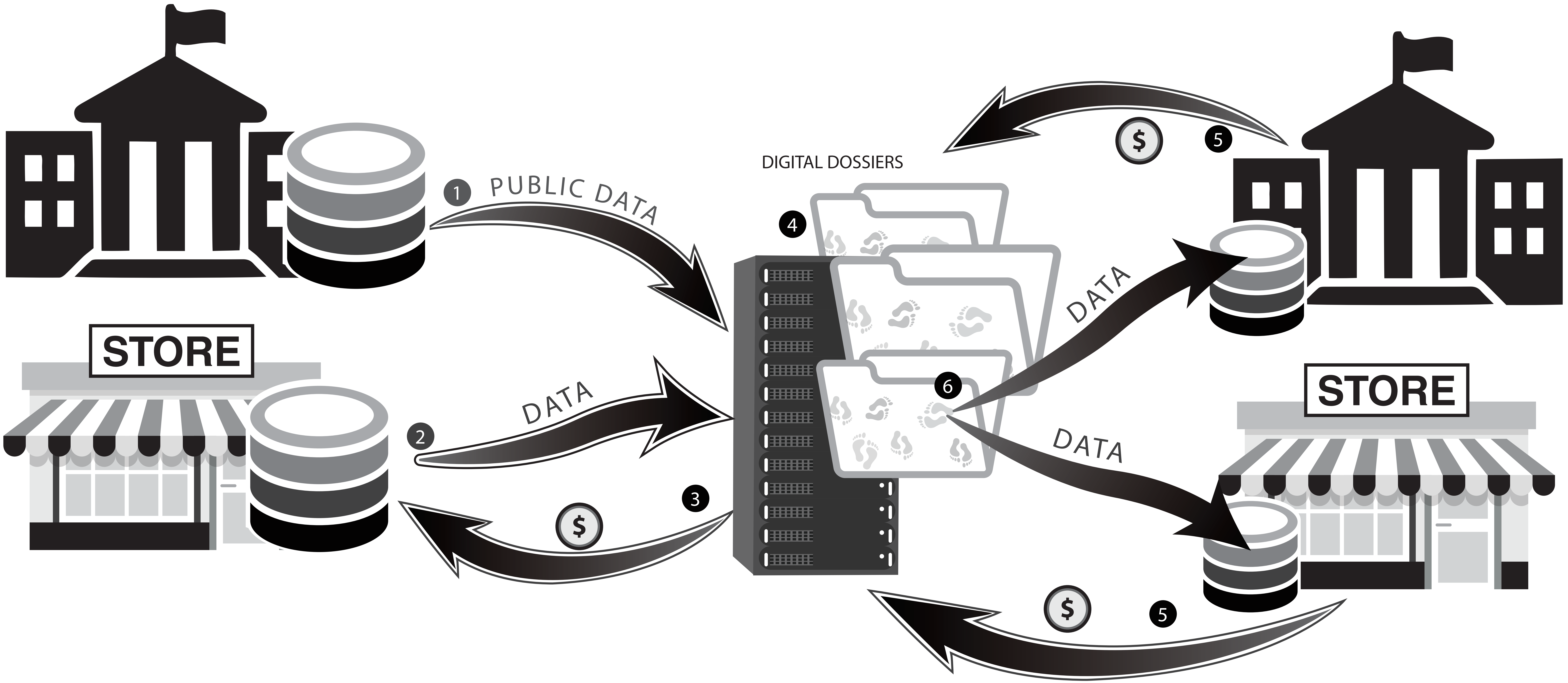
Delegated Relationships

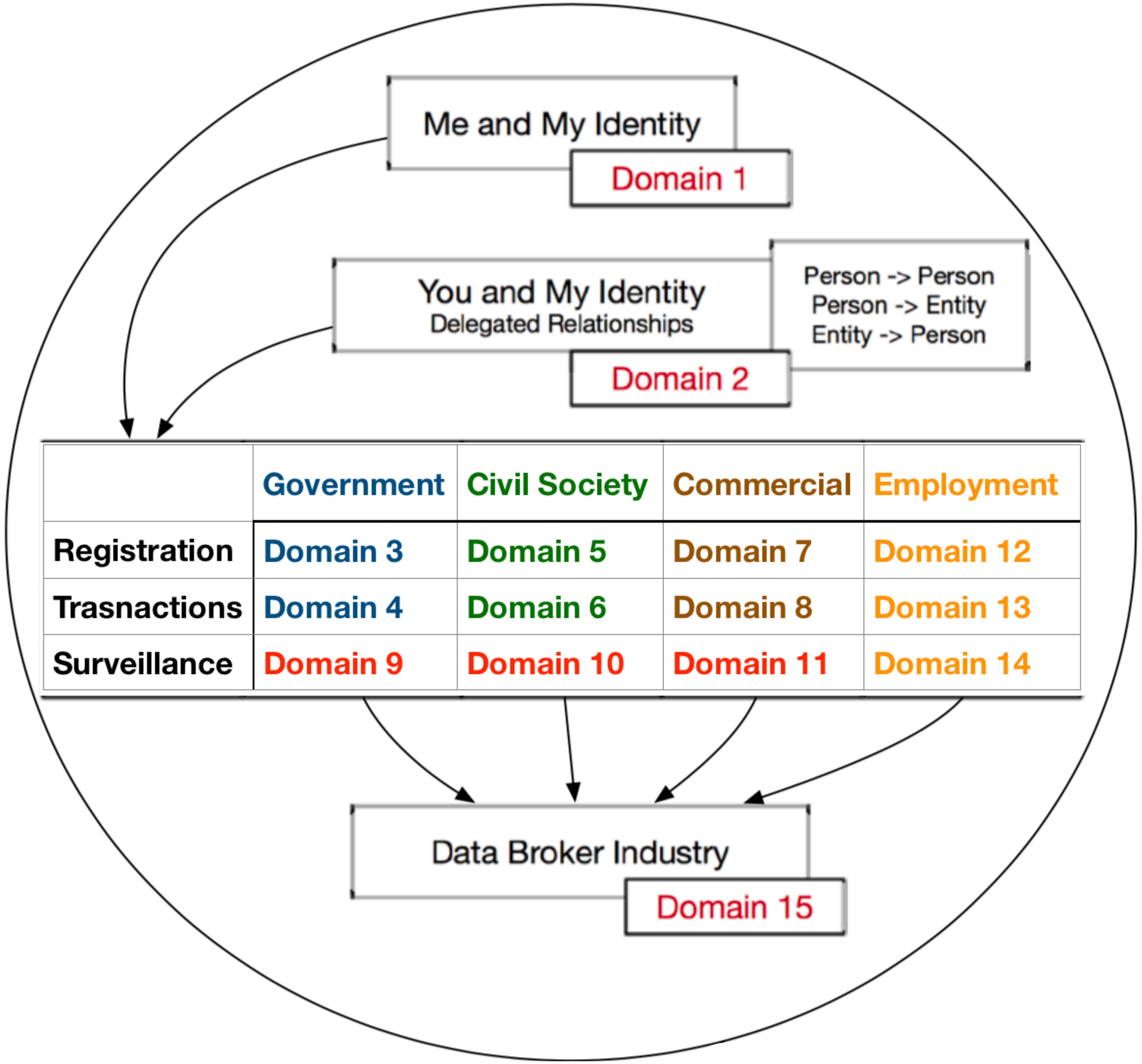
Domain 2

Person -> Person
Person -> Entity
Entity -> Person

	Government	Civil Society	Commercial	Employment
Registration	Domain 3	Domain 5	Domain 7	Domain 12
Trasnactions	Domain 4	Domain 6	Domain 8	Domain 13
Surveillance	Domain 9	Domain 10	Domain 11	Domain 14

15. Data Broker Industry





Me and My Identity

Domain 1

You and My Identity
Delegated Relationships

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Domain 2

	Government	Civil Society	Commercial	Employment
Registration	Domain 3	Domain 5	Domain 7	Domain 12
Trasnactions	Domain 4	Domain 6	Domain 8	Domain 13
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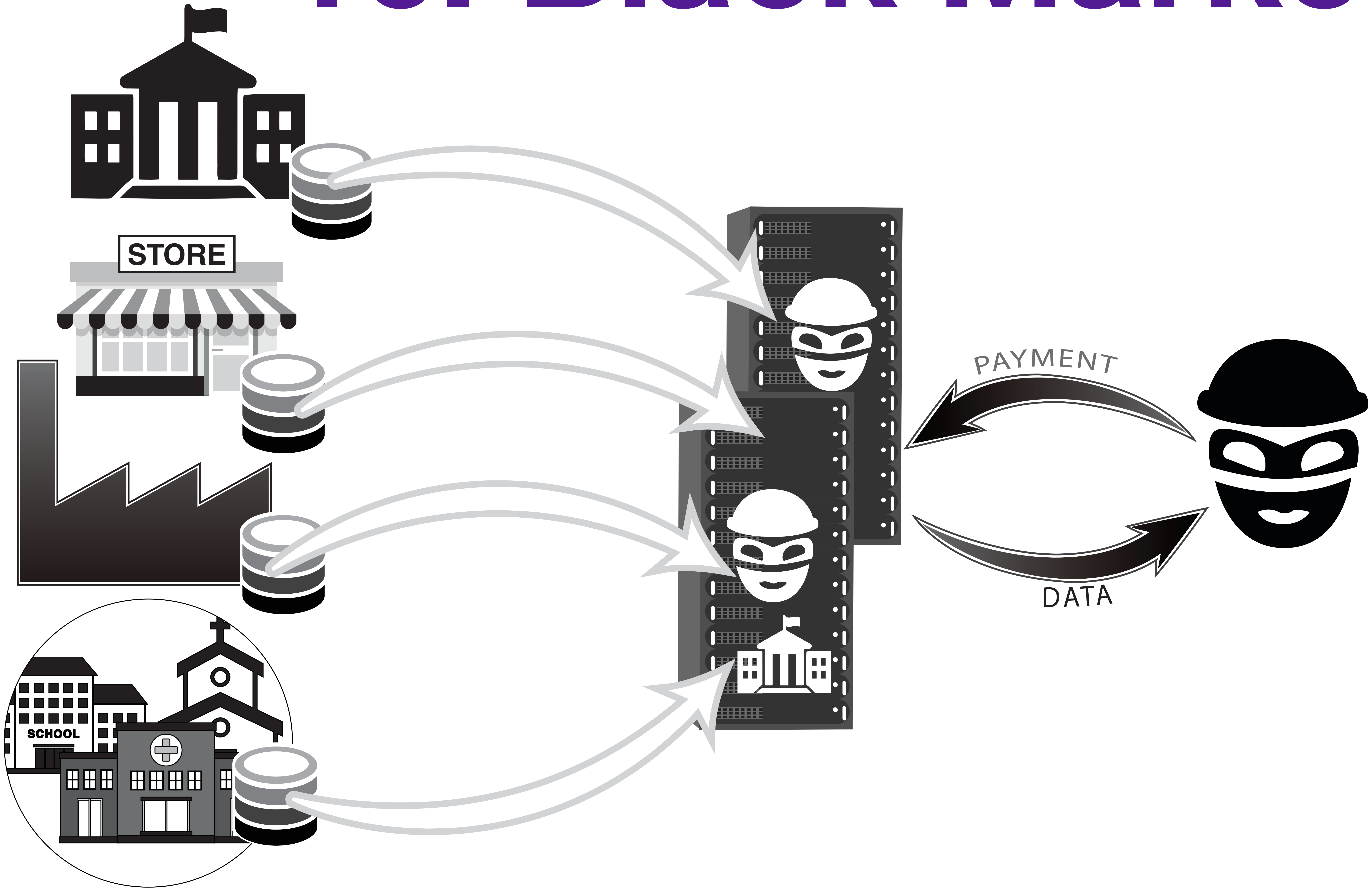
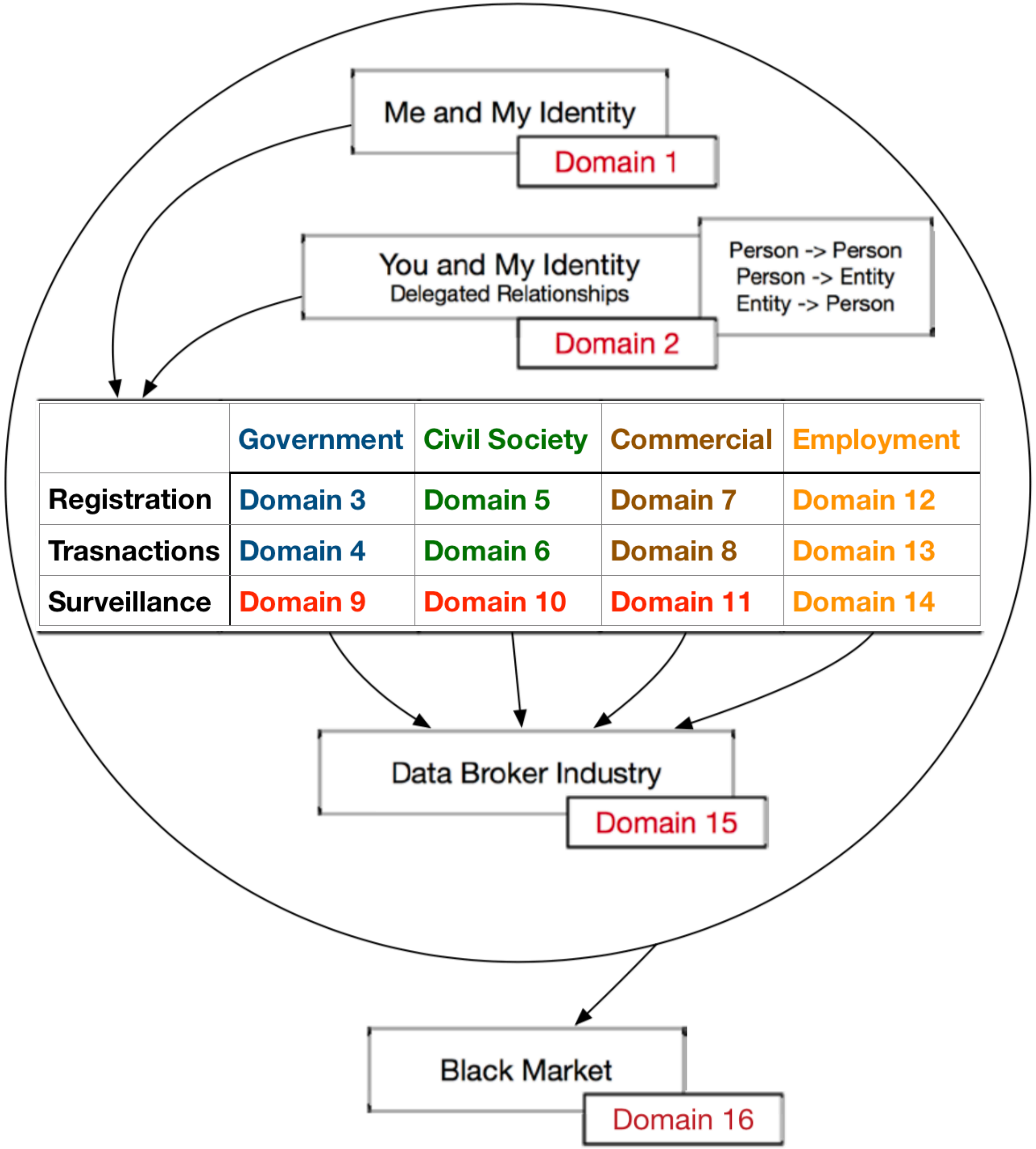
Data Broker Industry

Domain 15

16. Black Market





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Trasnactions	Domain 4	Domain 6	Domain 8	Domain 13
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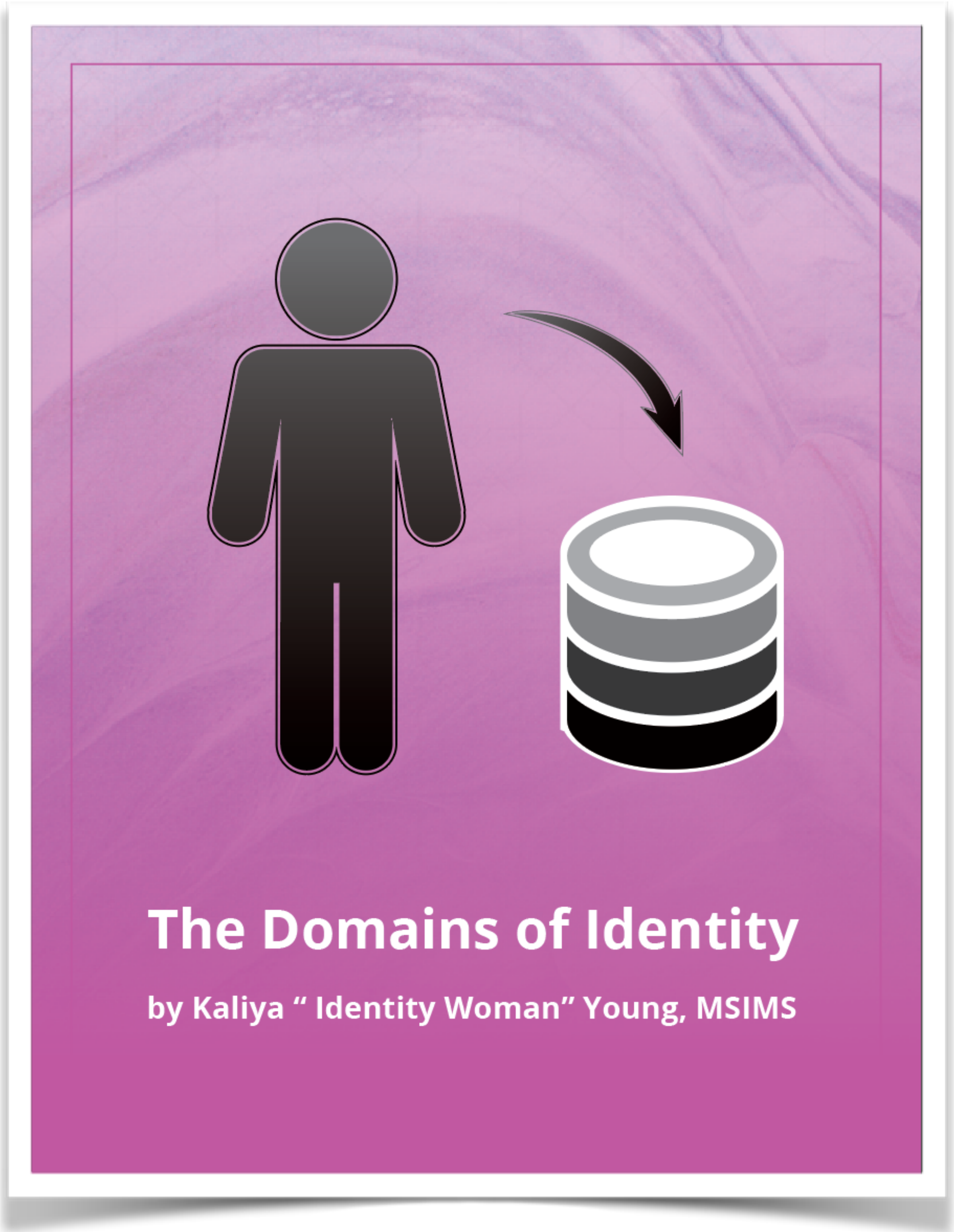
Data Broker Industry

Domain 15

Black Market

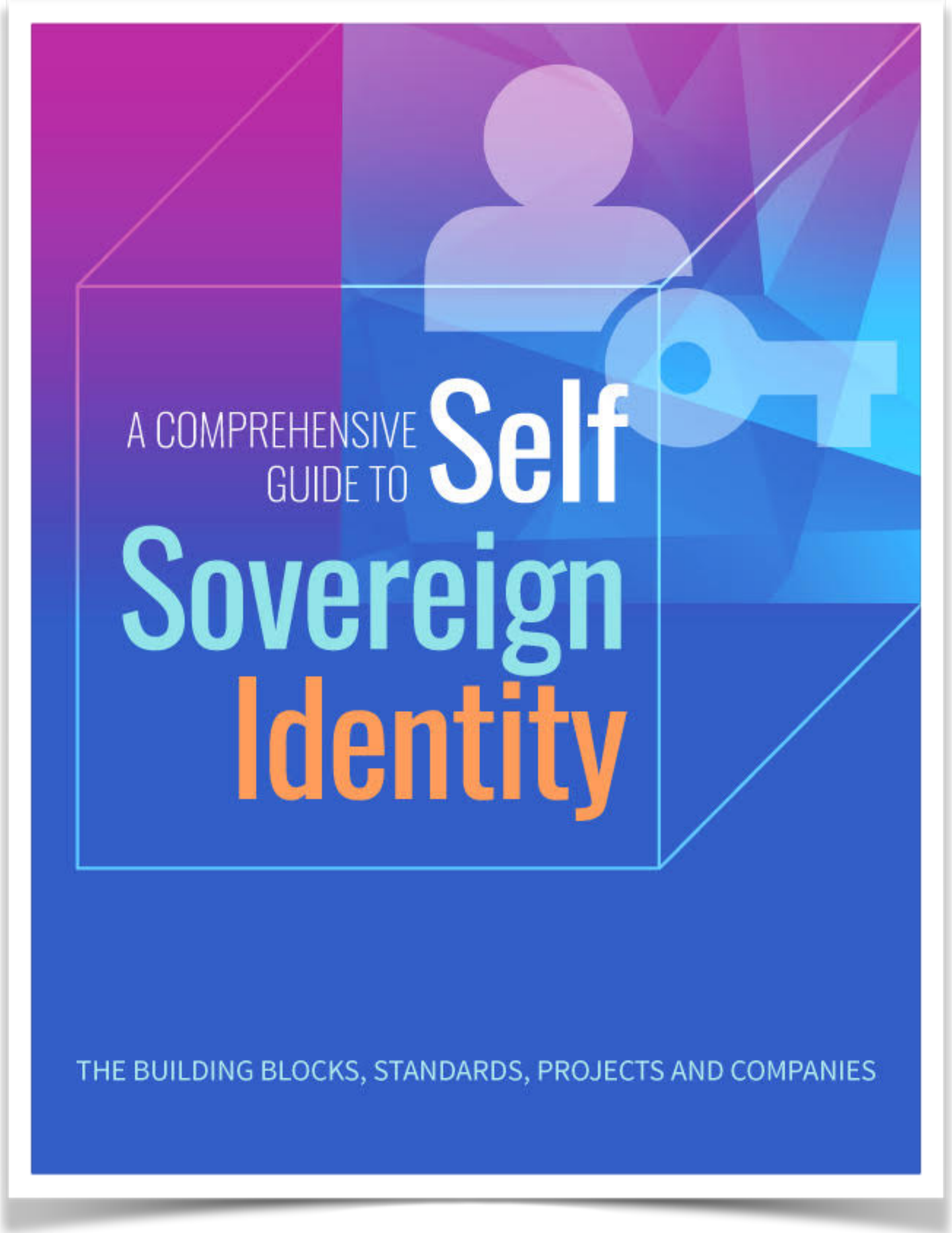
Domain 16



The Domains of Identity

by Kaliya “ Identity Woman” Young, MSIMS

Domains of Identity



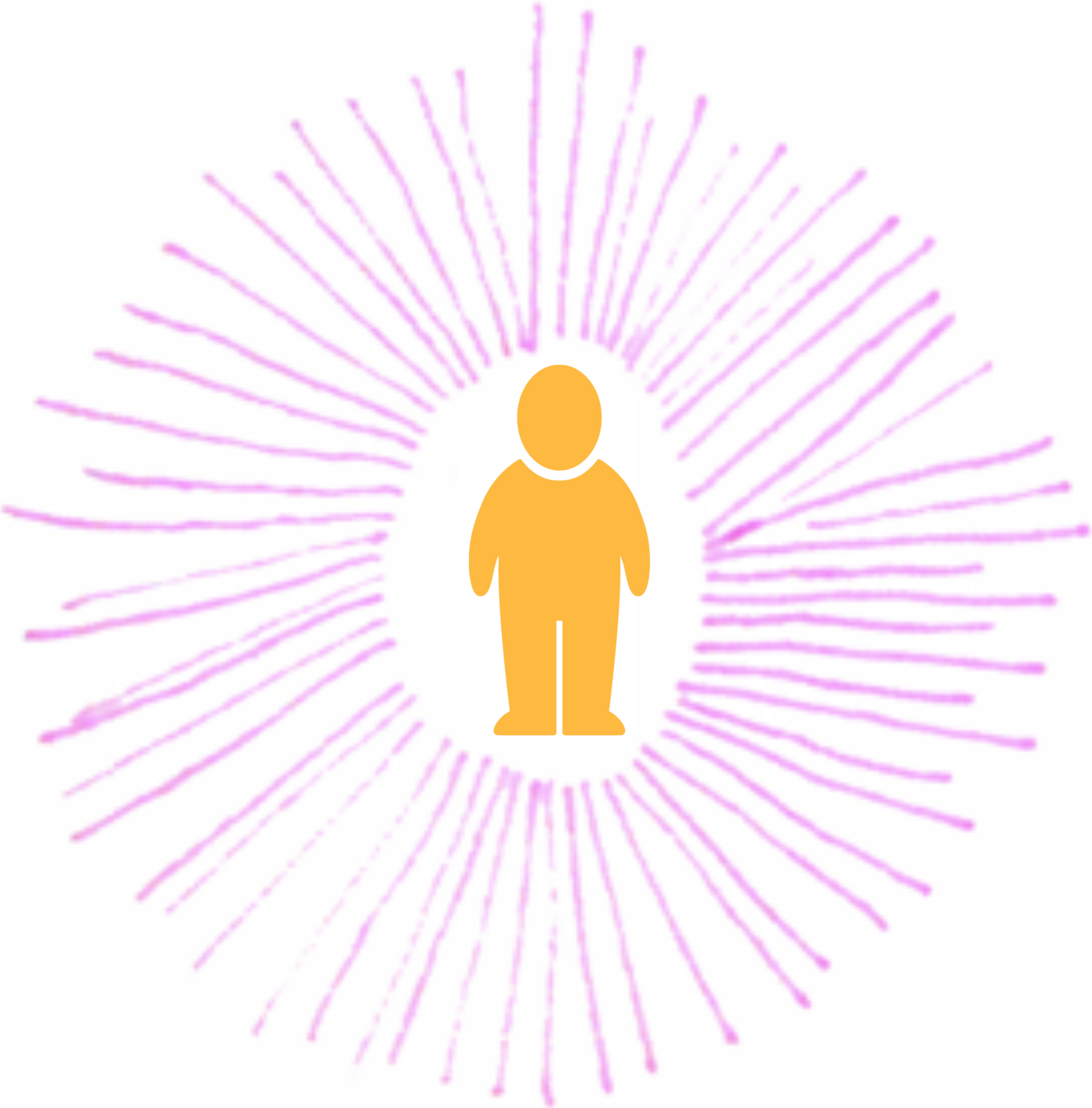
A COMPREHENSIVE GUIDE TO Self Sovereign Identity

THE BUILDING BLOCKS, STANDARDS, PROJECTS AND COMPANIES

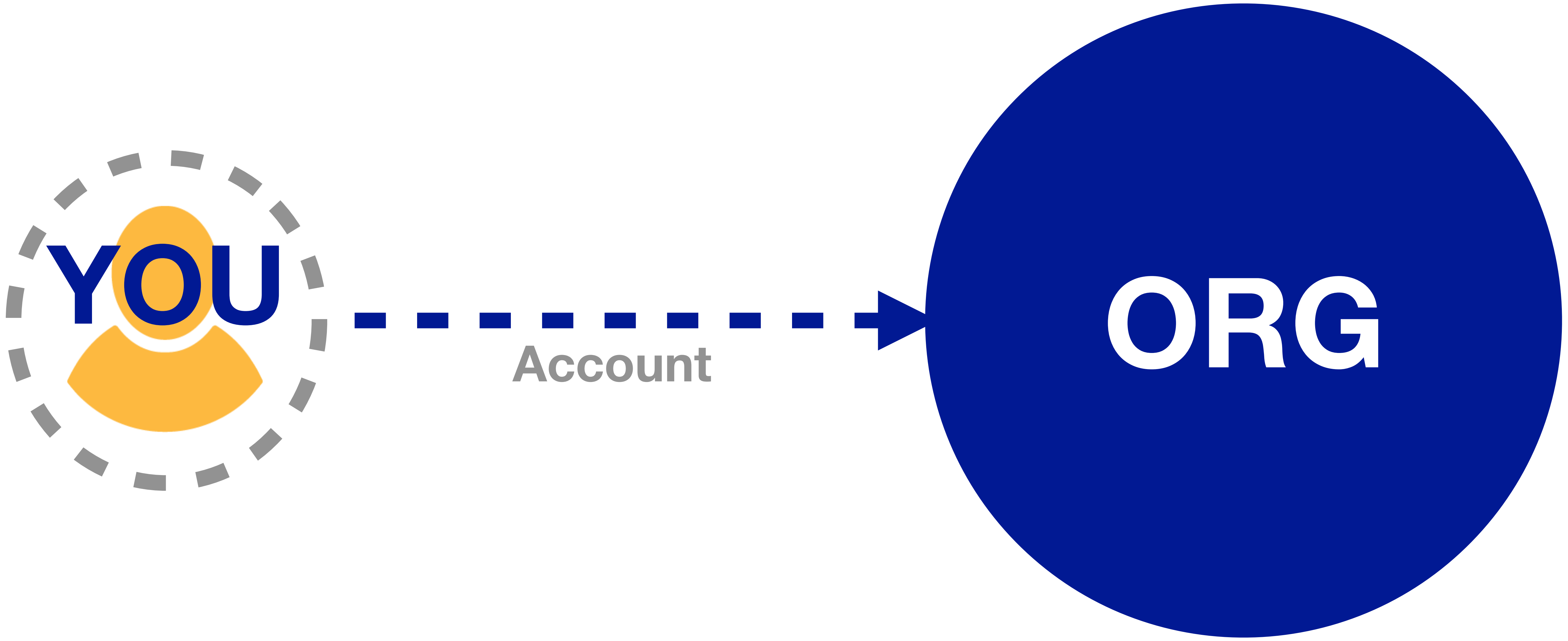
Self-Sovereign Identity

How do identifiers work today?

some we can pick..

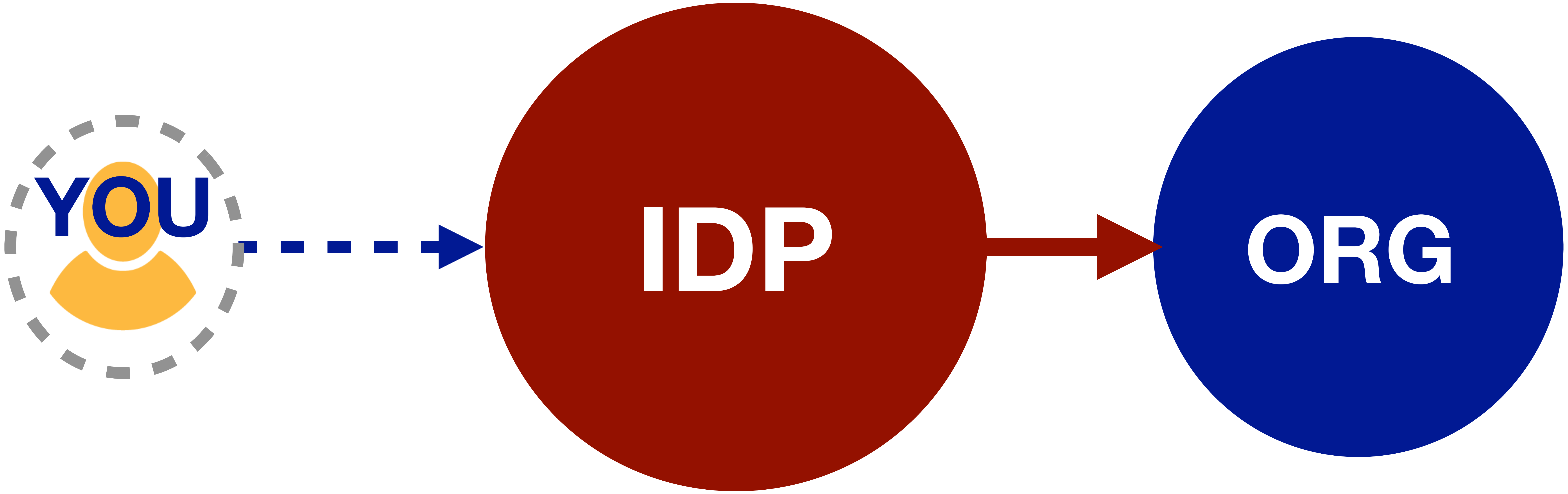


…in someone else’s name space



AADHAAR

Identity Provider Model



some identifiers we can pick…

MYURL.COM

some identifiers we can pick…

MYURL.COM

…but we really rent them…

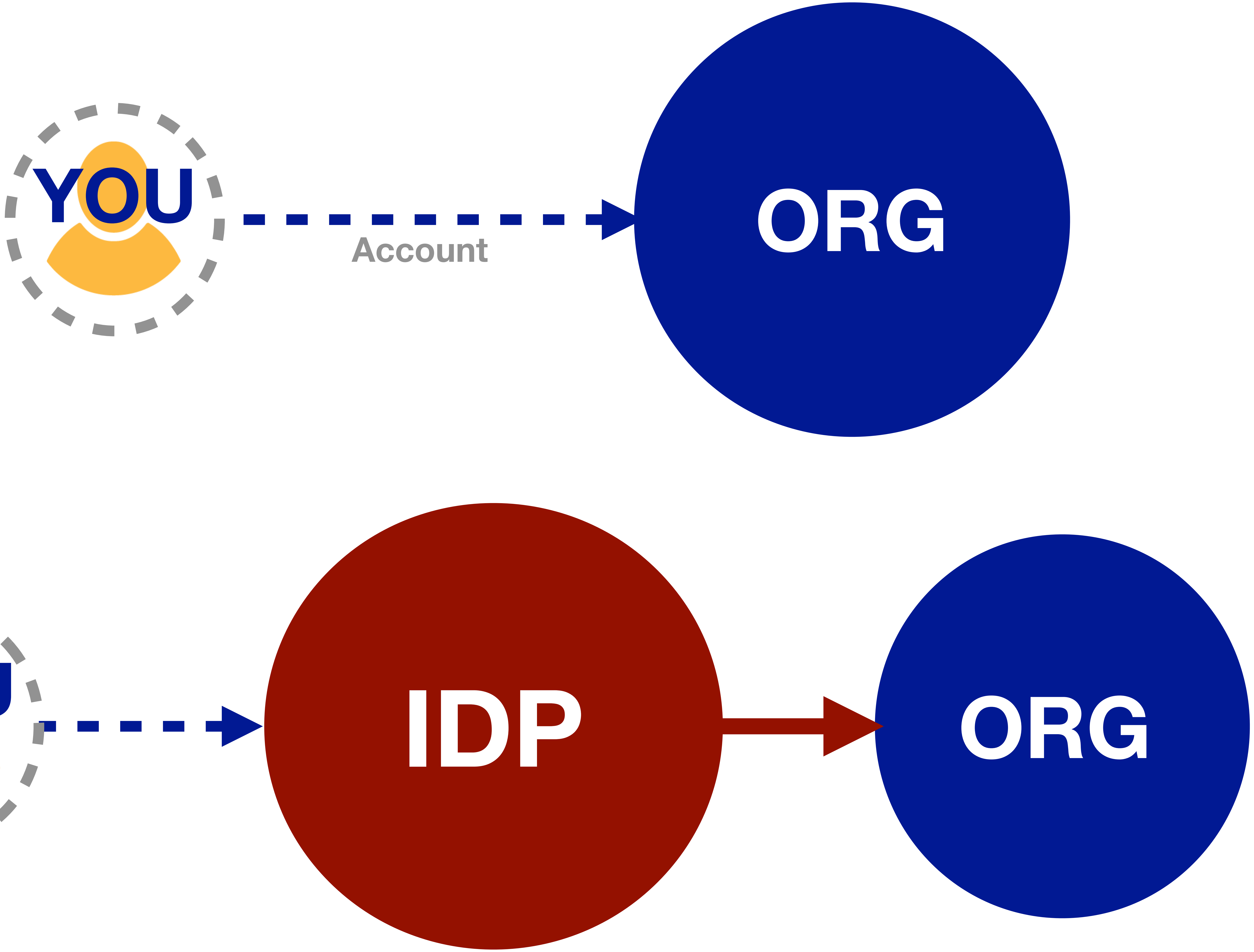
...and we rent our phone numbers

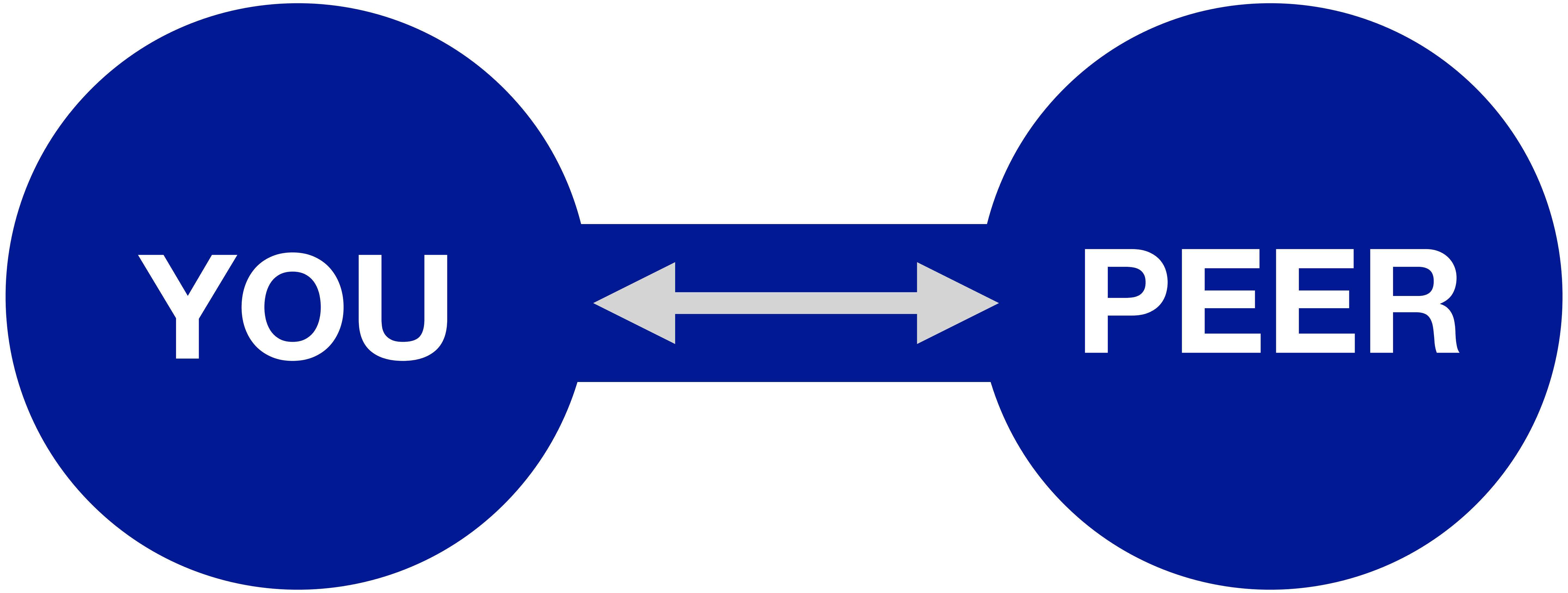
There are no digital identifiers
we really own.

Without control of our identifiers we can’t have control over our identities & personal data.

Without control of our identifiers we can’t have control over our identities & personal data.

How do we own our own digital identifiers?

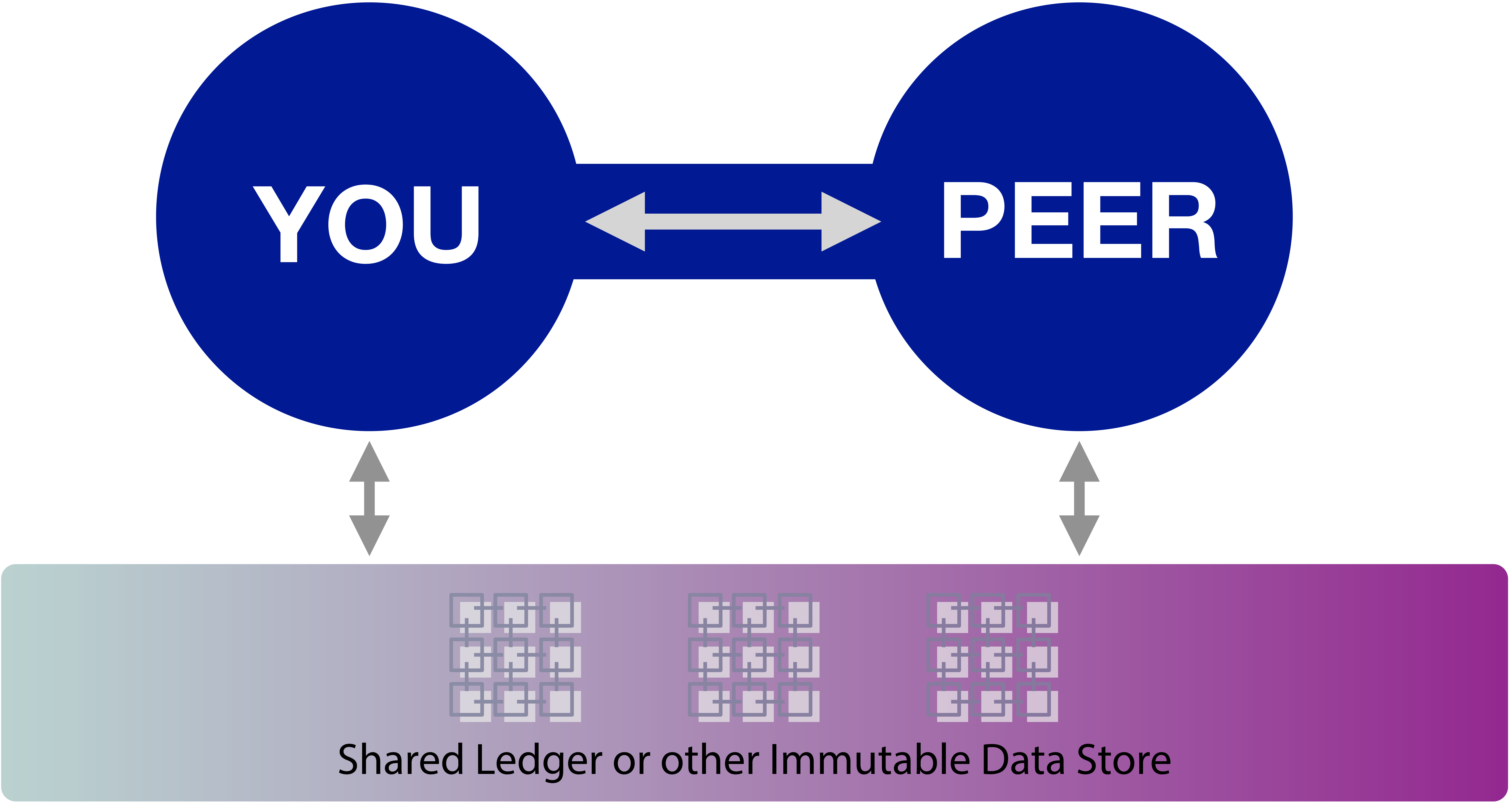

YOU
Account
ORG
YOU
IDP
ORG



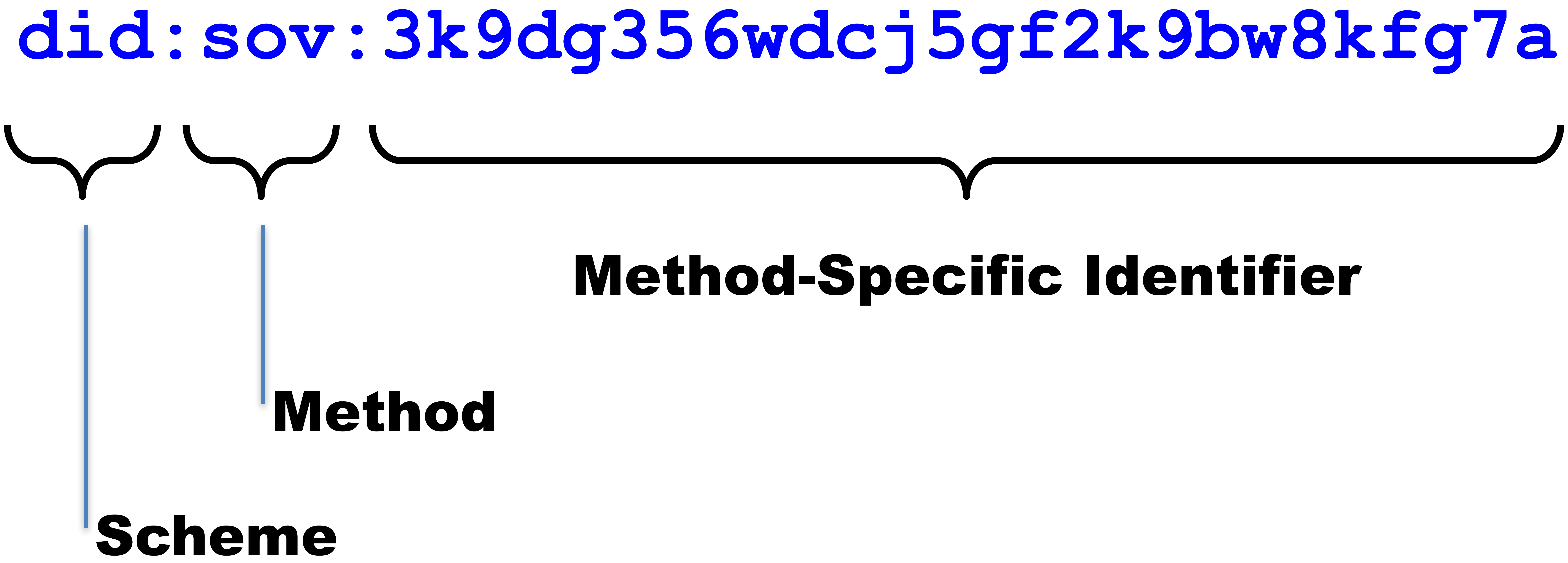
YOU

PEER

Decentralized Identity



Decentralized **ID**entifier - **DID**



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Slide credit: Drummond Reed, Sovrin Foundation

did:sov:3k9dg356wdcj5gf2k9bw8kfg7a

Slide credit: Drummond Reed, Sovrin Foundation

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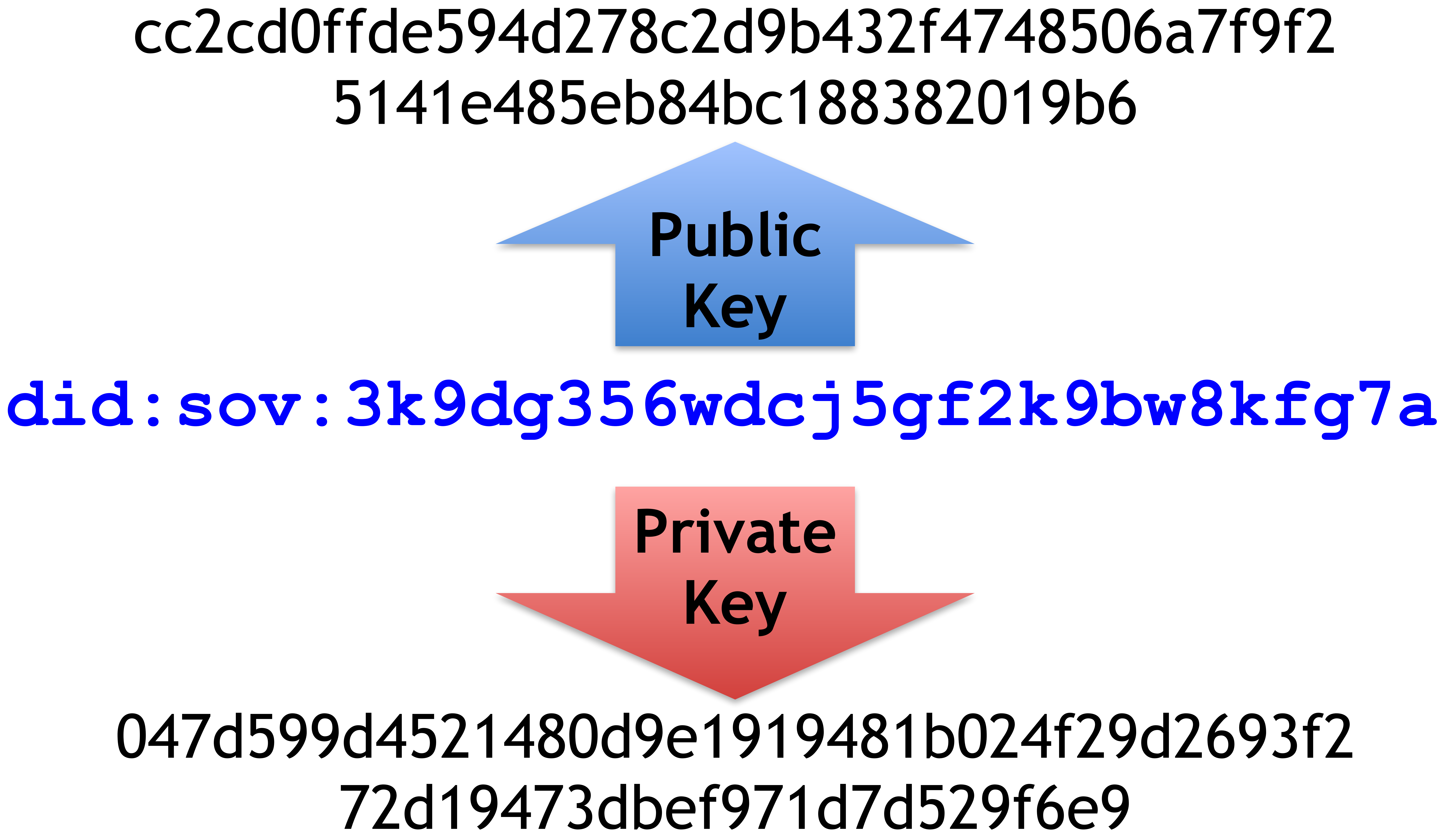
Public Key

did:sov:3k9dg356wdcj5gf2k9bw8kfg7a

Slide credit: Drummond Reed, Sovrin Foundation



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Public
Key

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Private
Key

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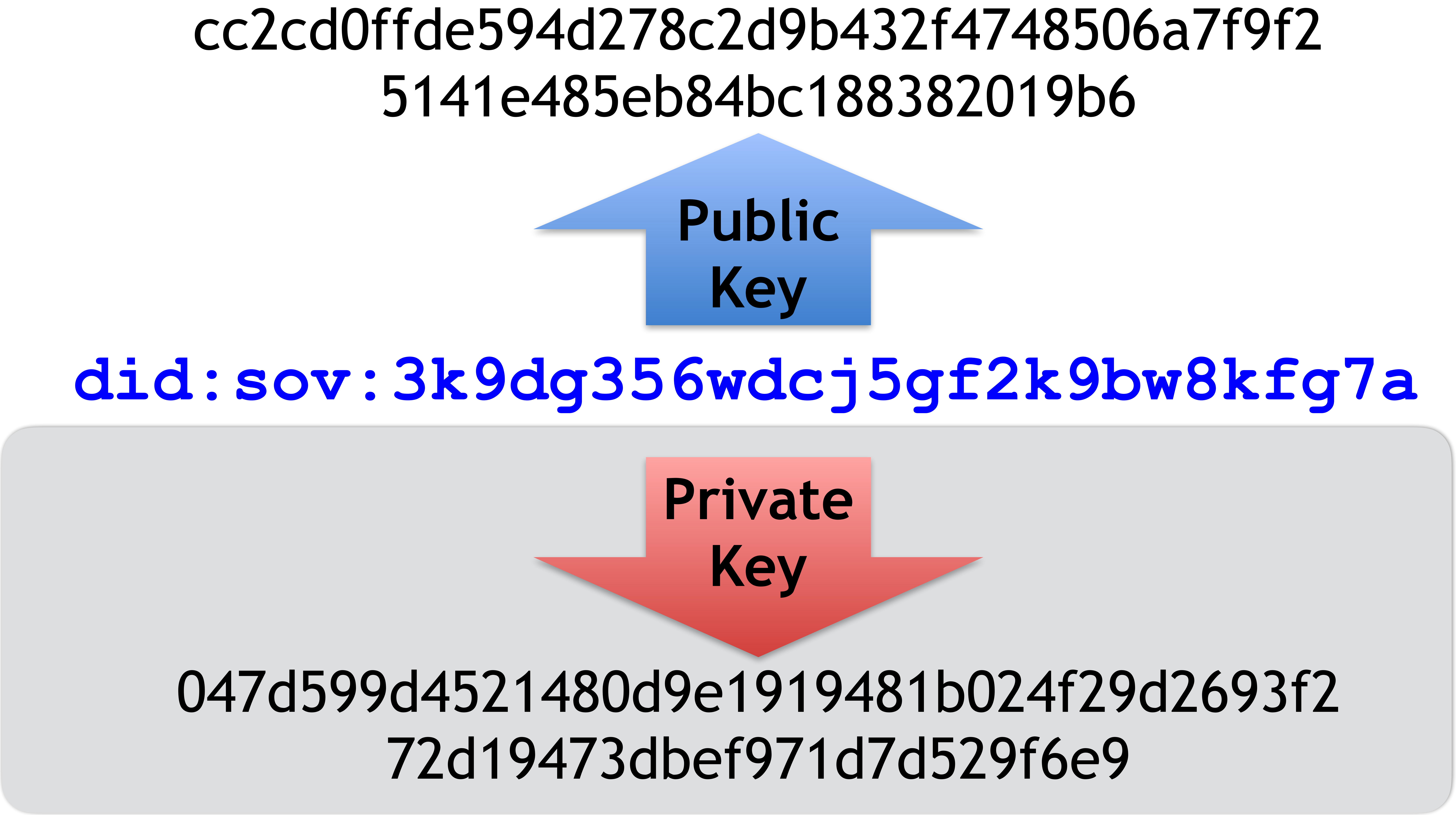
Slide credit: Drummond Reed, Sovrin Foundation



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Public Key

did:sov:3k9dg356wdcj5gf2k9bw8kfg7a

Private Key

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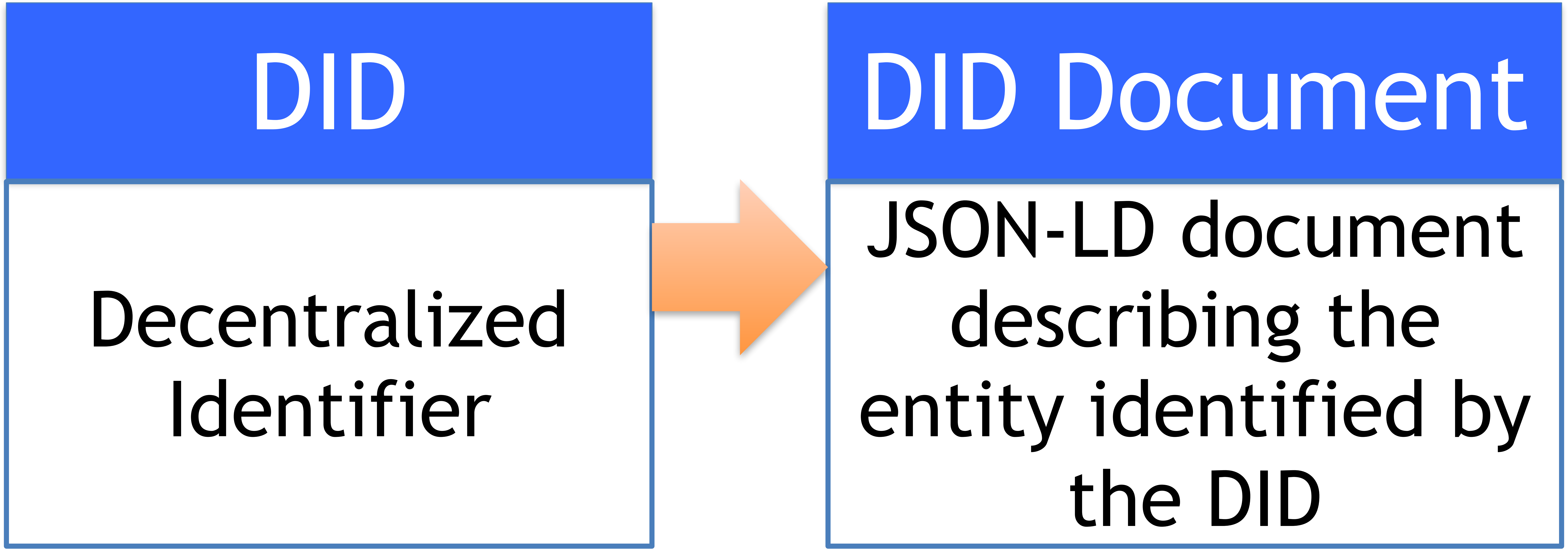
72d19473dbef971d7d529f6e9

Slide credit: Drummond Reed, Sovrin Foundation

{ “Key”: “Value” }



DID

Decentralized Identifier

DID Document

JSON-LD document describing the entity identified by the DID

Slide credit: Drummond Reed, Sovrin Foundation

The standard elements of a DID doc

1. **DID** (for self-description)
2. **Set of public keys** (for verification)
3. **Set of auth protocols** (for authentication)
4. **Set of service endpoints** (for interaction)
5. **Timestamp** (for audit history)
6. **Signature** (for integrity)

Slide credit: Drummond Reed, Sovrin Foundation

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Slide credit: Drummond Reed, Sovrin Foundation

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Slide credit: Drummond Reed, Sovrin Foundation

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Slide credit: Drummond Reed, Sovrin Foundation

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Slide credit: Drummond Reed, Sovrin Foundation

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Slide credit: Drummond Reed, Sovrin Foundation

The standard elements of a DID doc

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4. **Set of service endpoints** (for interaction)
5. **Timestamp** (for audit history)
6. **Signature** (for integrity)

Slide credit: Drummond Reed, Sovrin Foundation

Example DID Document (Part 1)

```
{
  "@context": "https://w3id.org/did/v1",
  "id": "did:example:123456789abcdefghi",
  "publicKey": [{
    "id": "did:example:123456789abcdefghi#keys-1",
    "type": "RsaSigningKey2018",
    "owner": "did:example:123456789abcdefghi",
    "publicKeyPem": "-----BEGIN PUBLIC KEY...END PUBLIC KEY-----\r\n"
  }],
  "authentication": [{
    "type": "RsaSignatureAuthentication2018",
    "publicKey": "did:example:123456789abcdefghi#keys-1"
  }],
  "service": [{
    "type": "ExampleService",
    "serviceEndpoint": "https://example.com/endpoint/8377464"
  }],
```

Slide credit: Drummond Reed, Sovrin Foundation

Example DID Document (Part 2)

```
    "created": "2002-10-10T17:00:00Z",
    "updated": "2016-10-17T02:41:00Z",
    "signature": {
        "type": "RsaSignature2016",
        "created": "2016-02-08T16:02:20Z",
        "creator": "did:sov:8uQhQMGzWxR8vw5P3UWH1j#key/1",
        "signatureValue": "IOmA4R7TfhkYTYW87z640O3GYFldw0
        yqie9Wl1kZ5OBYNAKOwG5uOsPRK8/2C4STOWF+83cMcbZ3CBMq2/
        gi25s="
    }
}
```

Slide credit: Drummond Reed, Sovrin Foundation

Shared Ledgers

sovrin

HYPERLEDGER

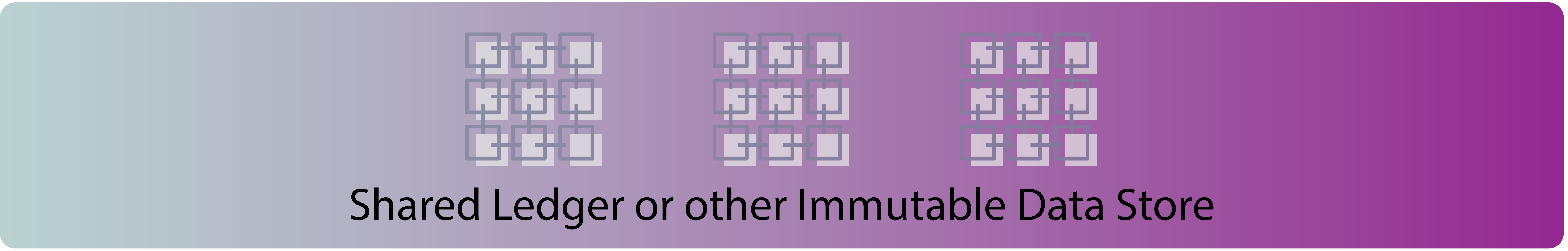
VERES ONE

uport

ethereum

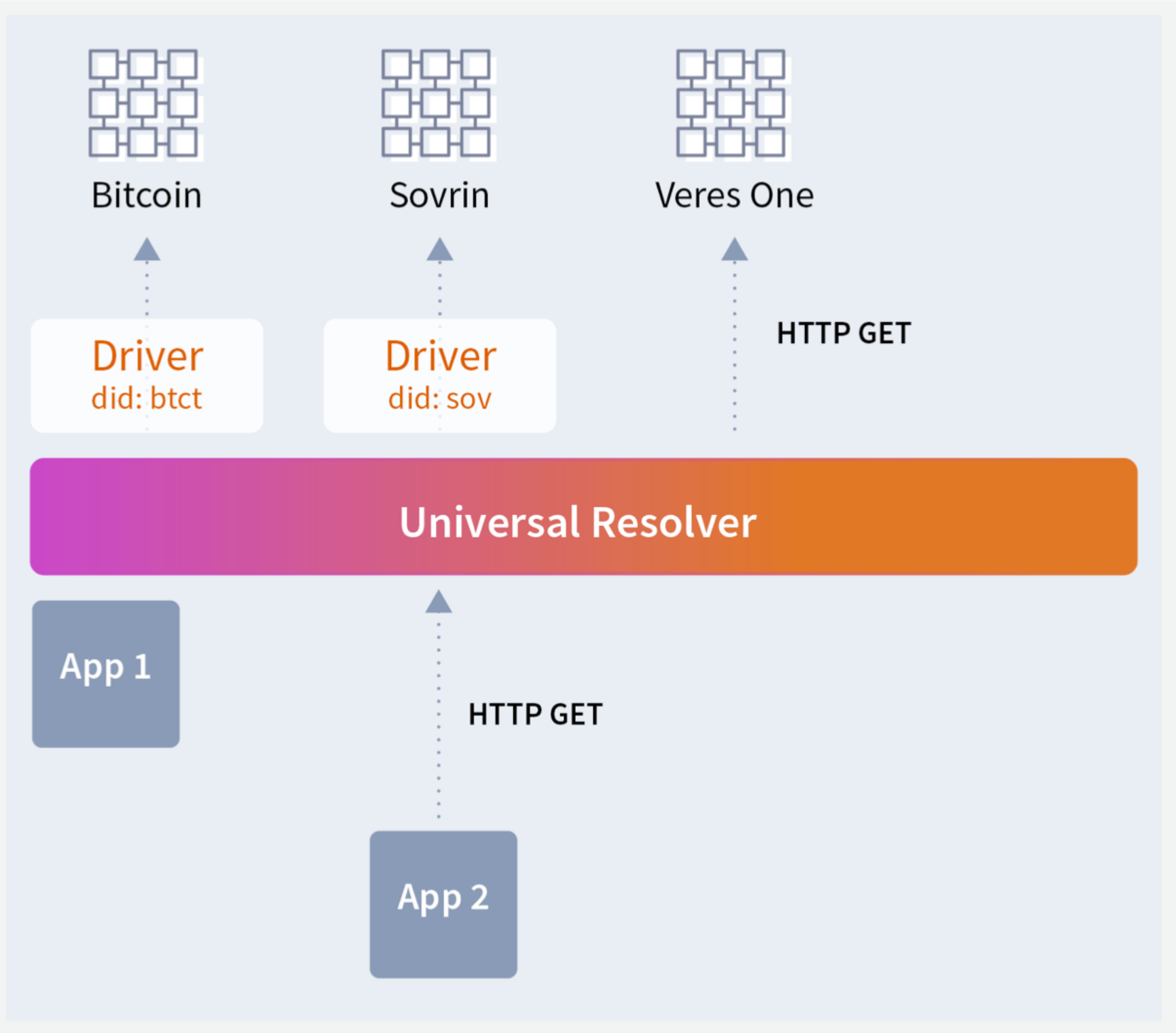
BTCR

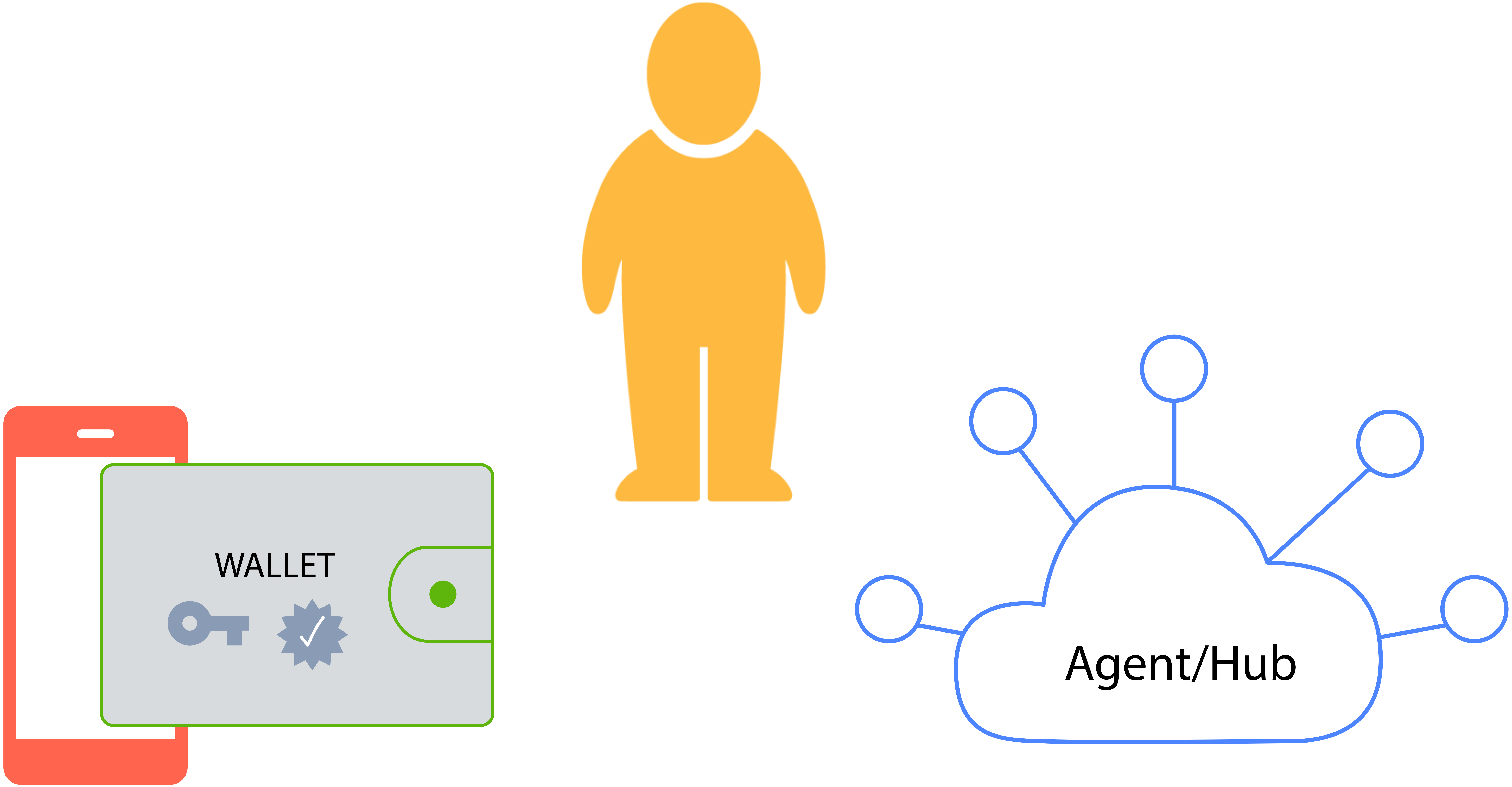
IPFS



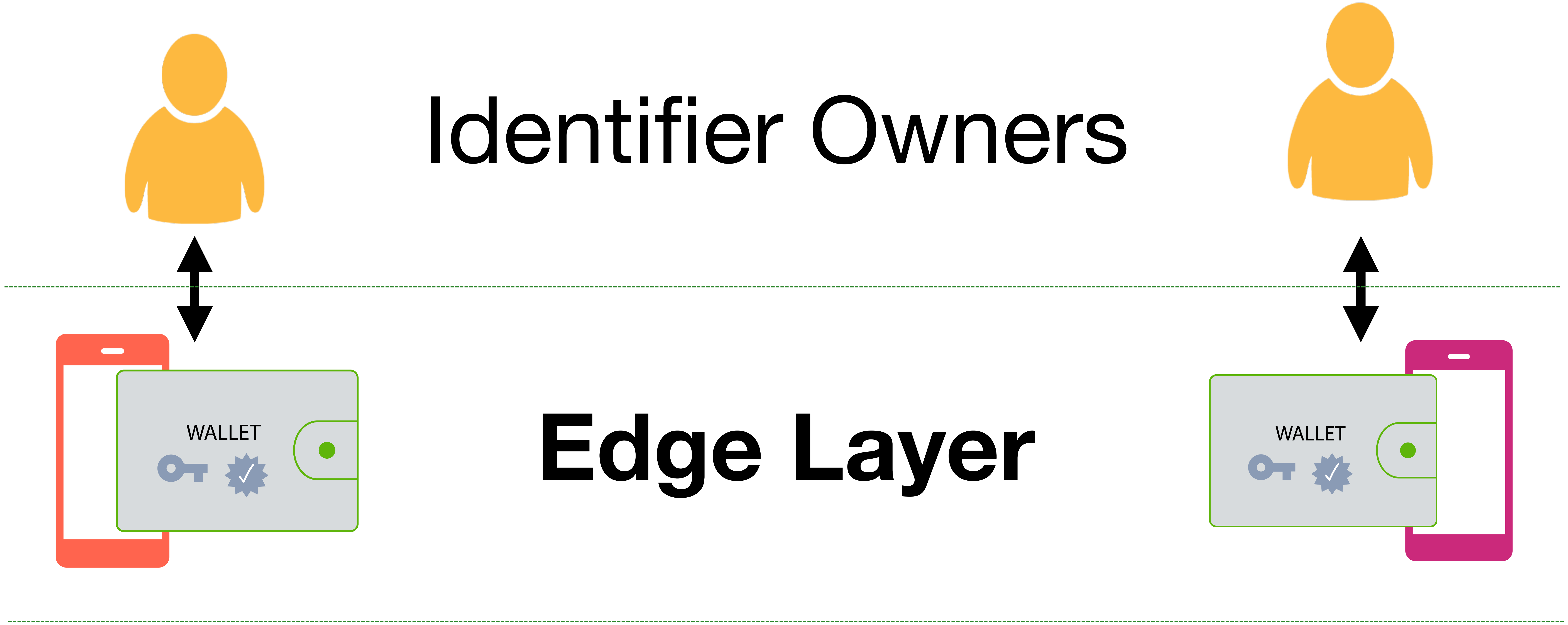
Shared Ledger or other Immutable Data Store

Building a Universal Resolver



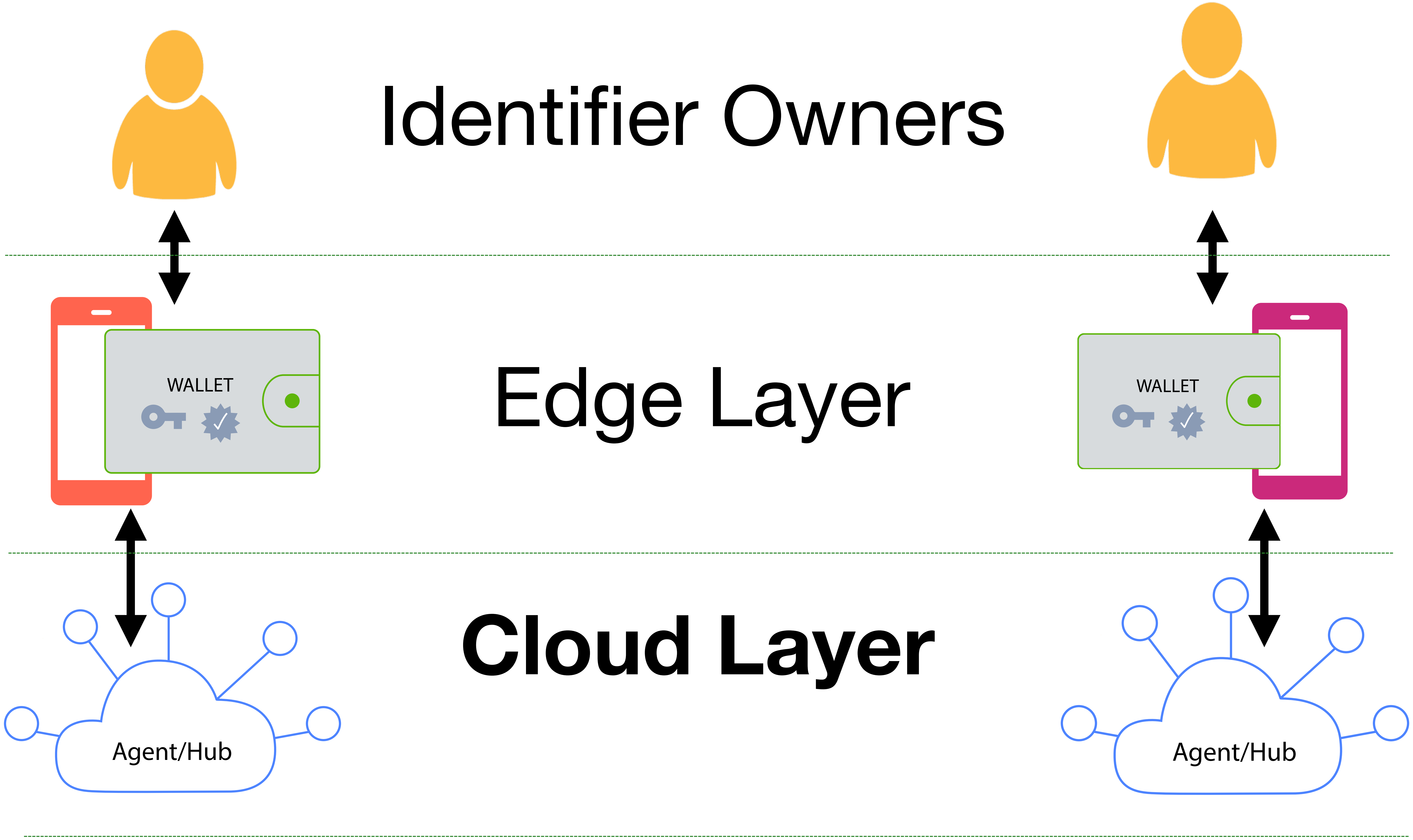

WALLET
Agent/Hub

Identifier Owners



Identifier Owners

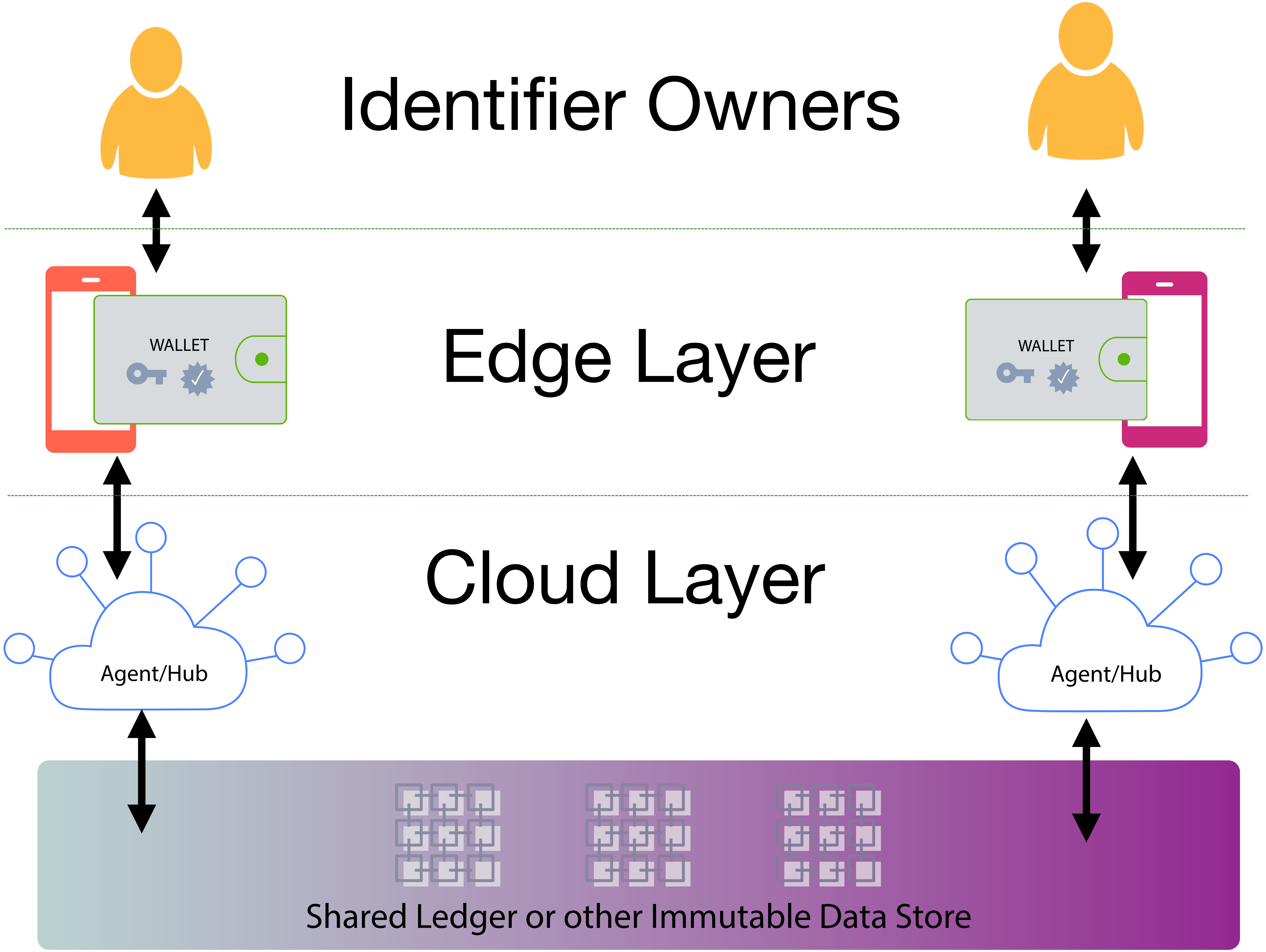
Edge Layer



Identifier Owners

Edge Layer

Cloud Layer

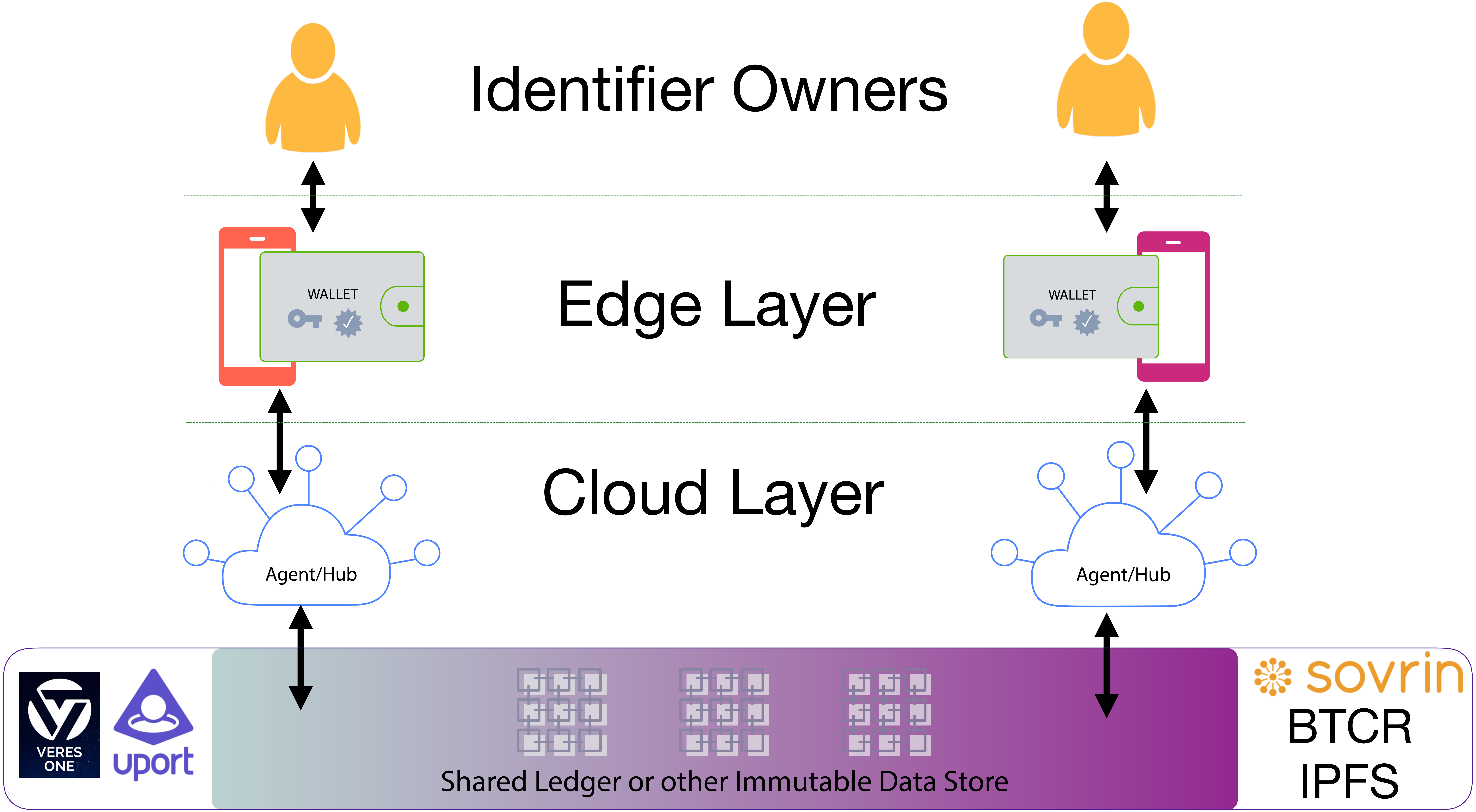


Identifier Owners

Edge Layer

Cloud Layer

Shared Ledger or other Immutable Data Store

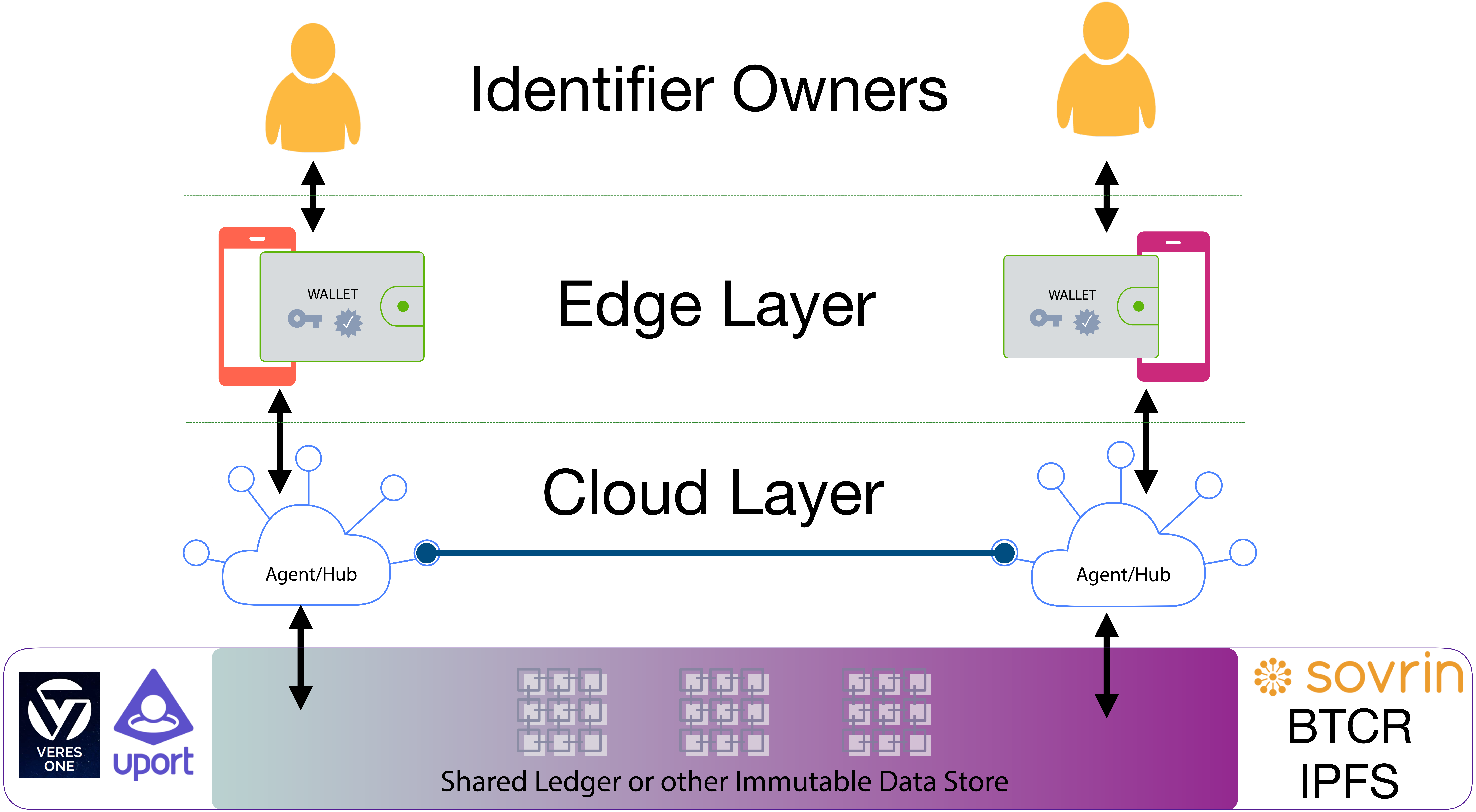


Identifier Owners

Edge Layer

Cloud Layer

Shared Ledger or other Immutable Data Store



Identifier Owners

Edge Layer

WALLET

WALLET

Cloud Layer

Agent/Hub

Agent/Hub

VERES ONE

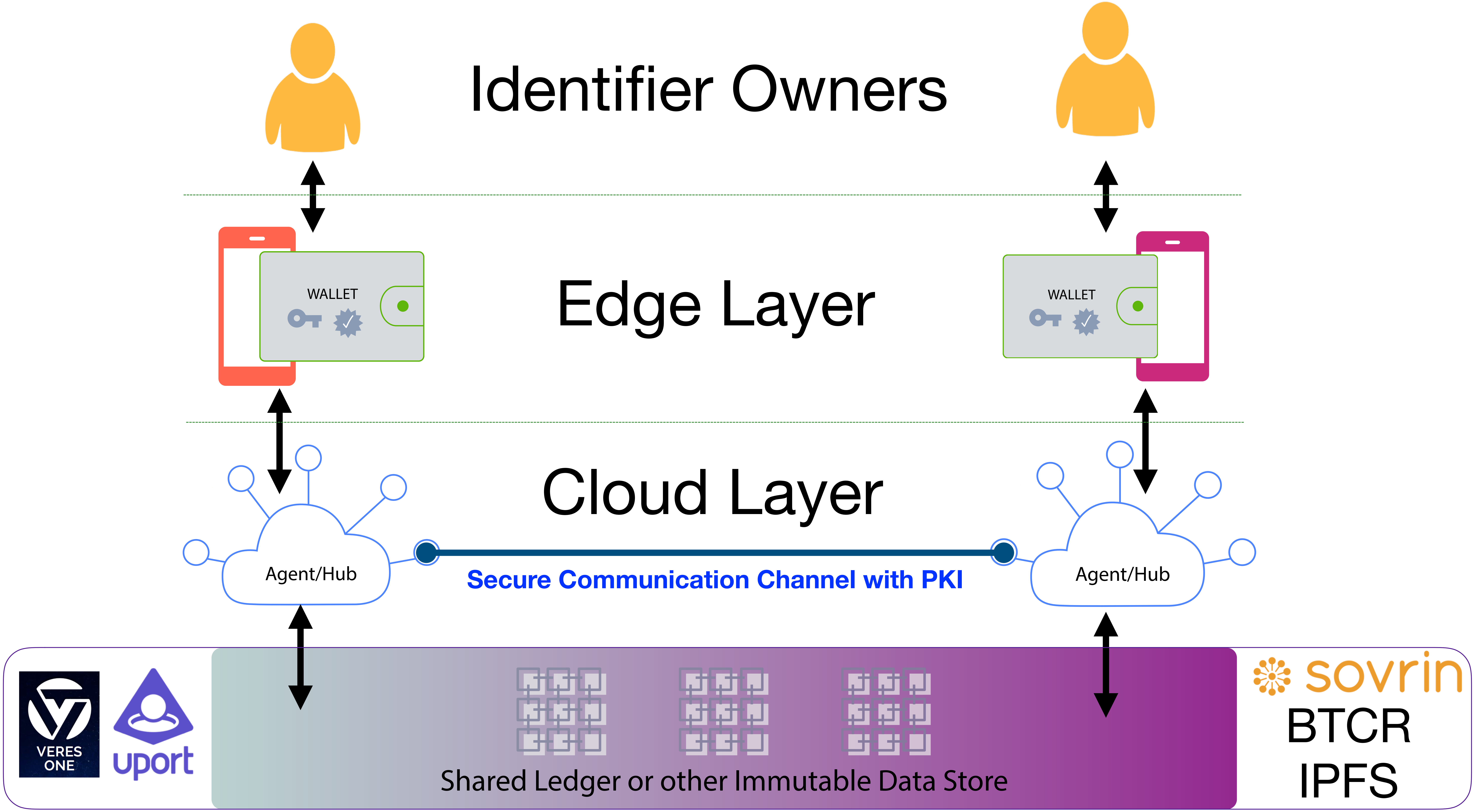
uport

Shared Ledger or other Immutable Data Store

sovrin

BTCR

IPFS



Identifier Owners

WALLET

WALLET

Edge Layer

Cloud Layer

Agent/Hub

Agent/Hub

Secure Communication Channel with PKI

VERES ONE

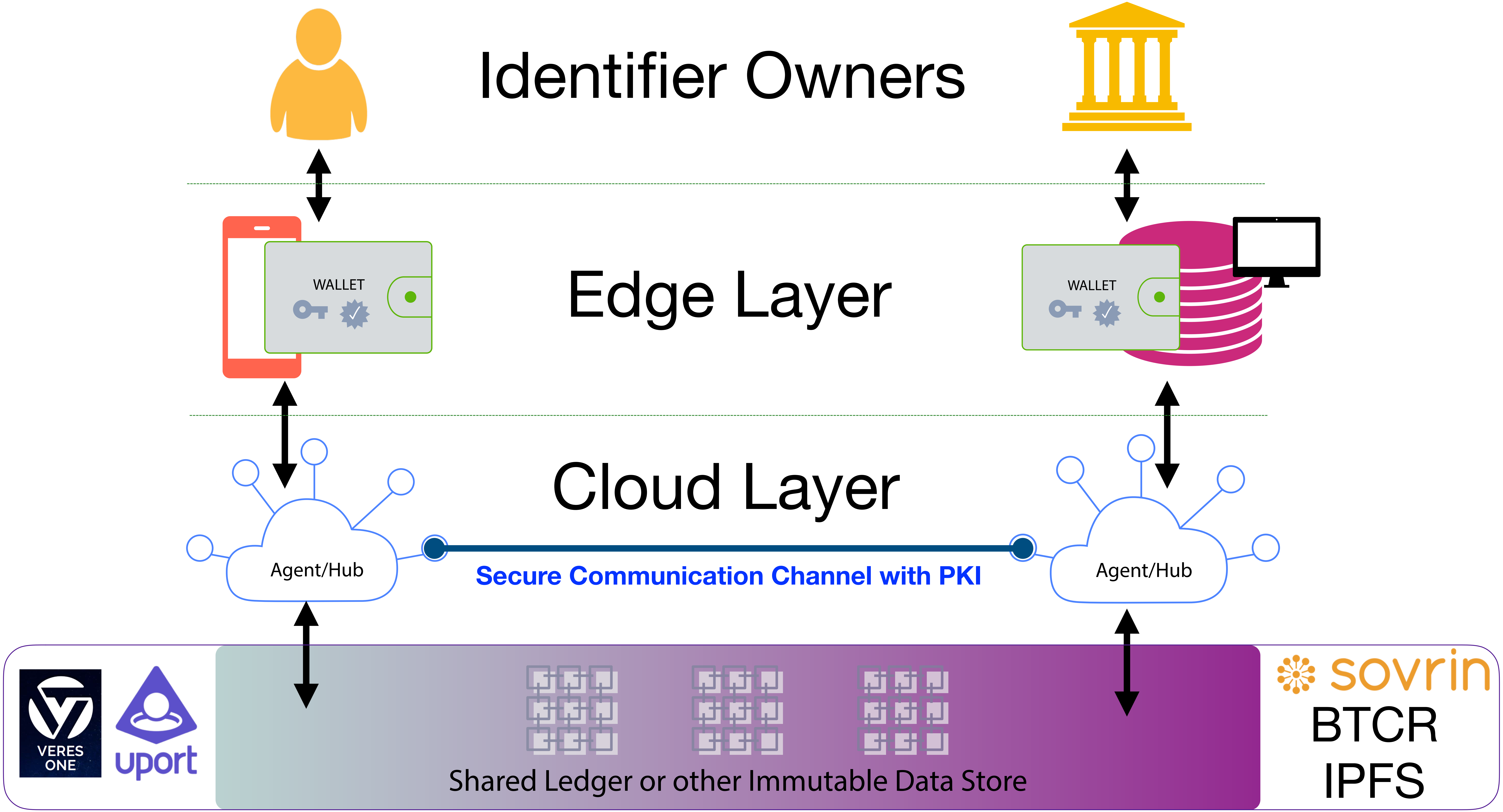
uport

Shared Ledger or other Immutable Data Store

sovrin

BTCR

IPFS



Identifier Owners

Edge Layer

Cloud Layer

Secure Communication Channel with PKI

Shared Ledger or other Immutable Data Store

`did:sov:3k9dg356wdcj5gf2k9bw8kfg7a`

Slide credit: Drummond Reed, Sovrin Foundation

did:sov:3k9dg j5gf2k9bw8kfg7a

Who cares about really long numbers?

Slide credit: Drummond Reed, Sovrin Foundation

Verifiable Credentials

DRIVERS LICENSE AND SERVICES CARD

British Columbia

CAN

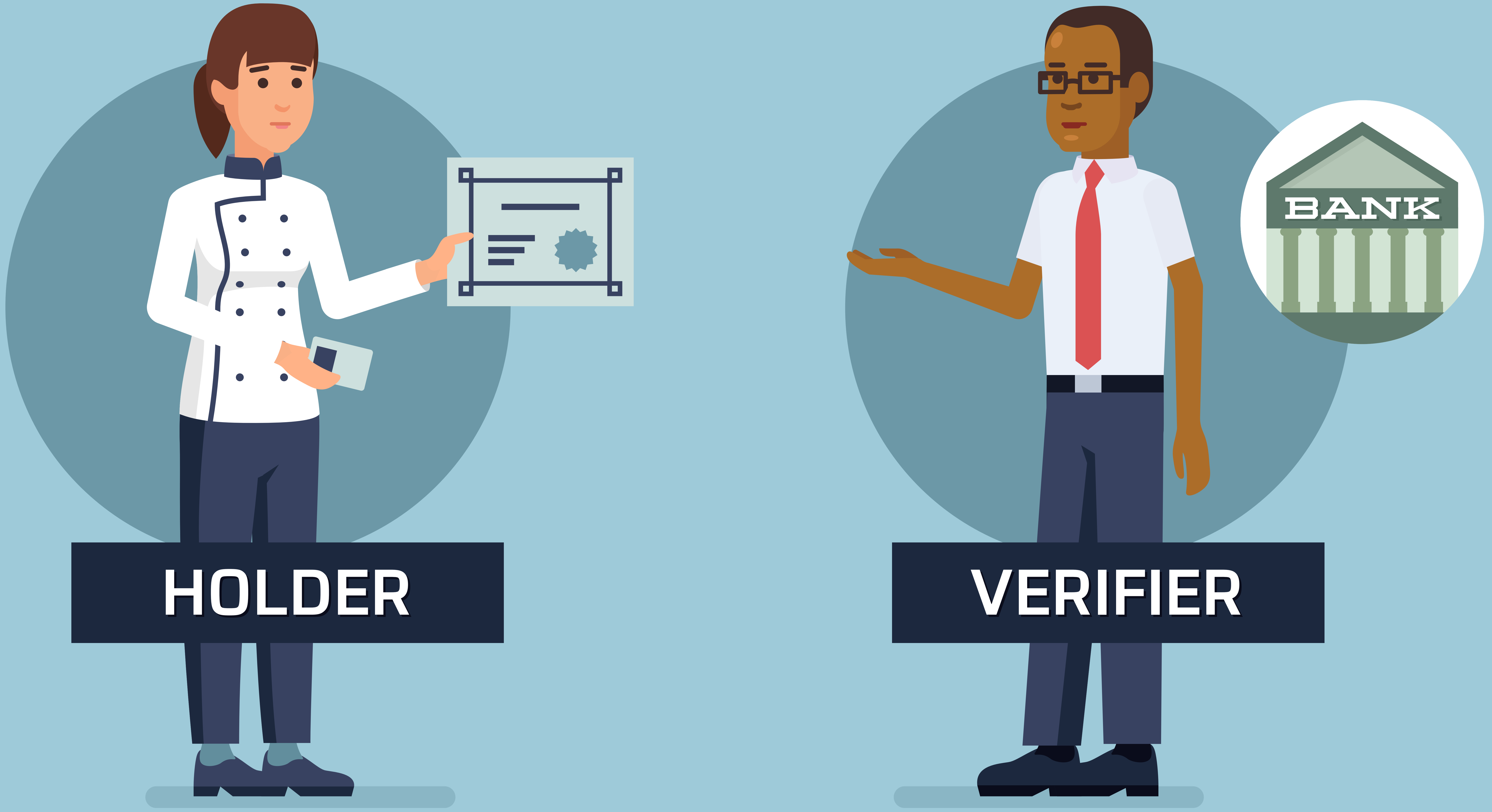
JORDAN, JOHN

DL 45033821

BRITISH COLUMBIA

John Jordan

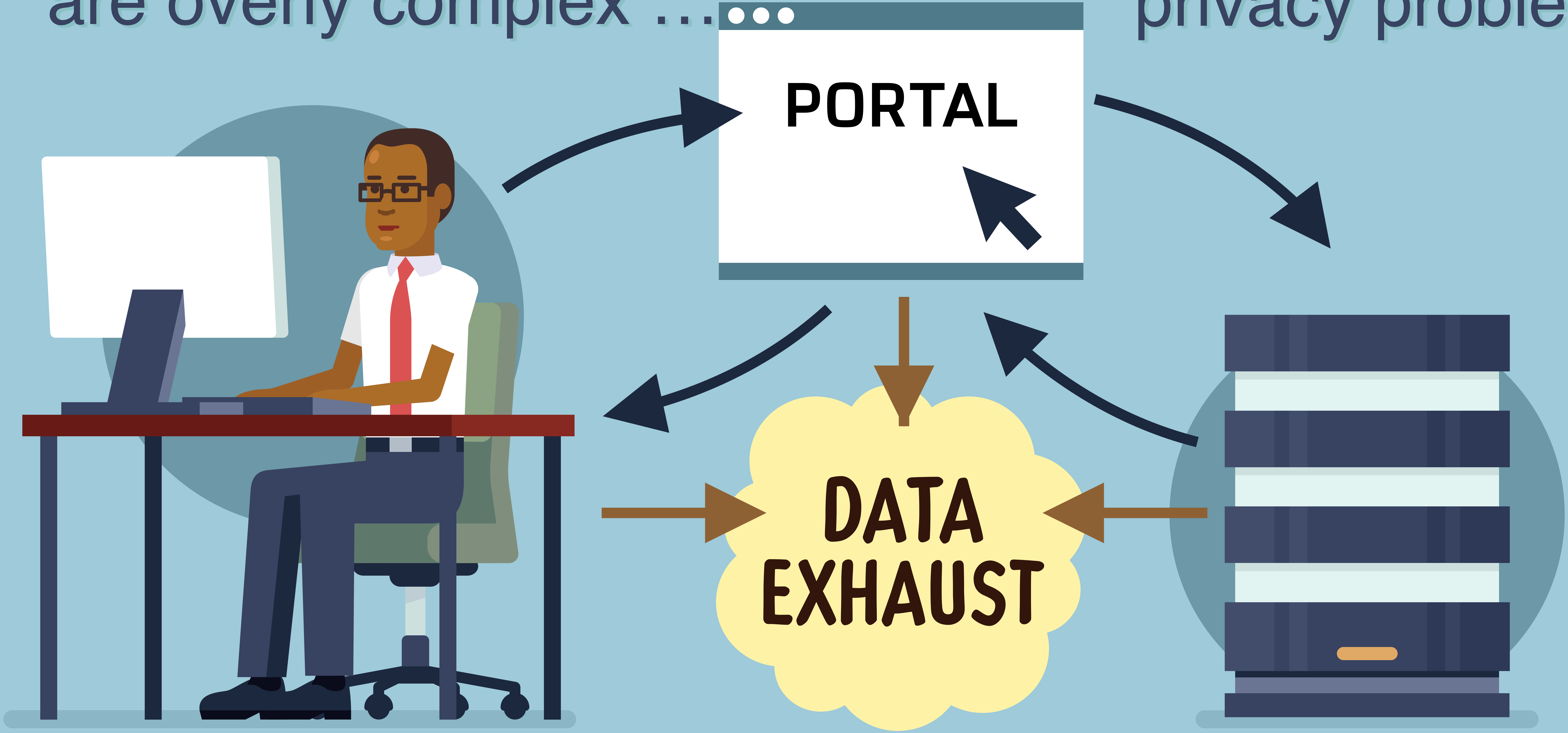
When a credential is shown to a verifier with a proof of ID, verification is highly fallible.

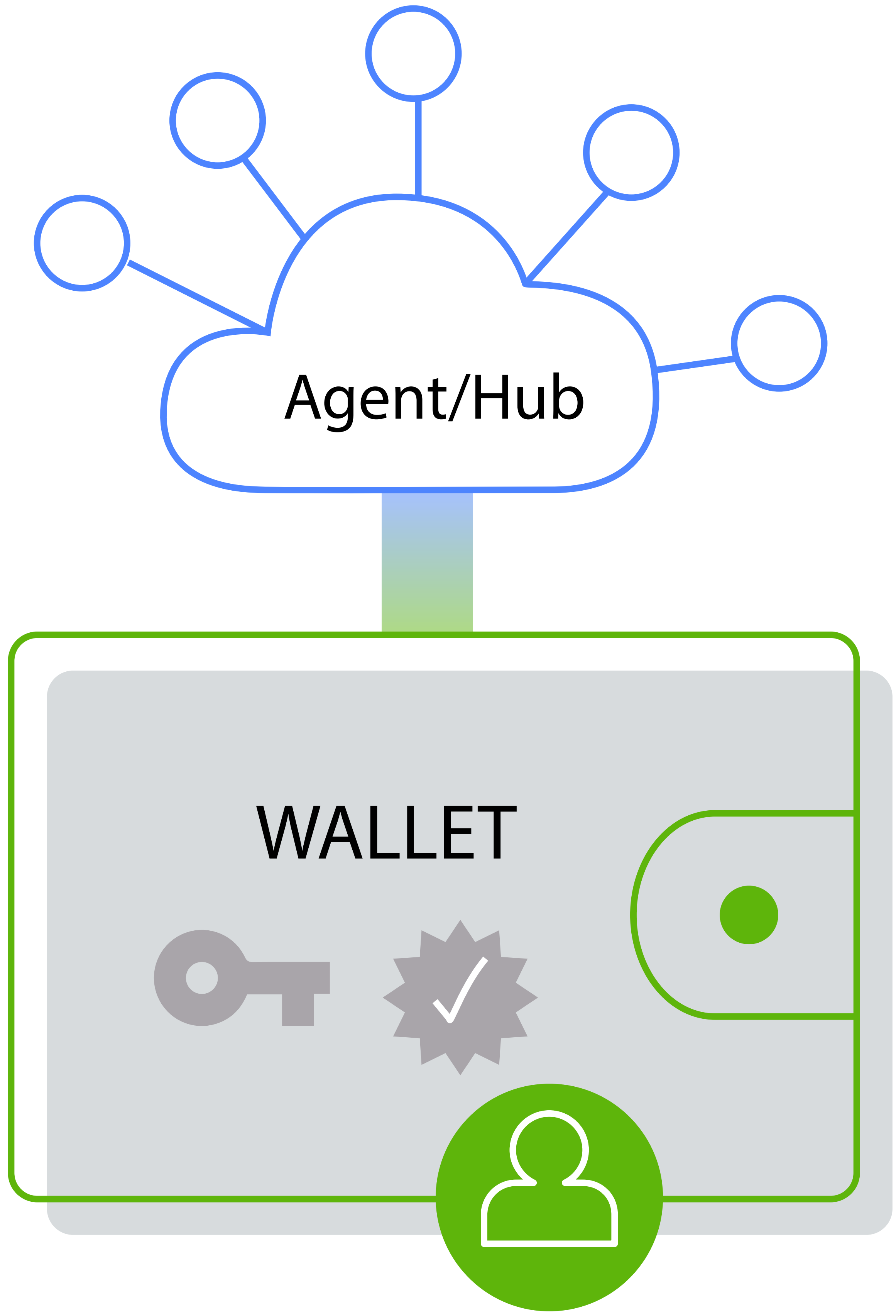


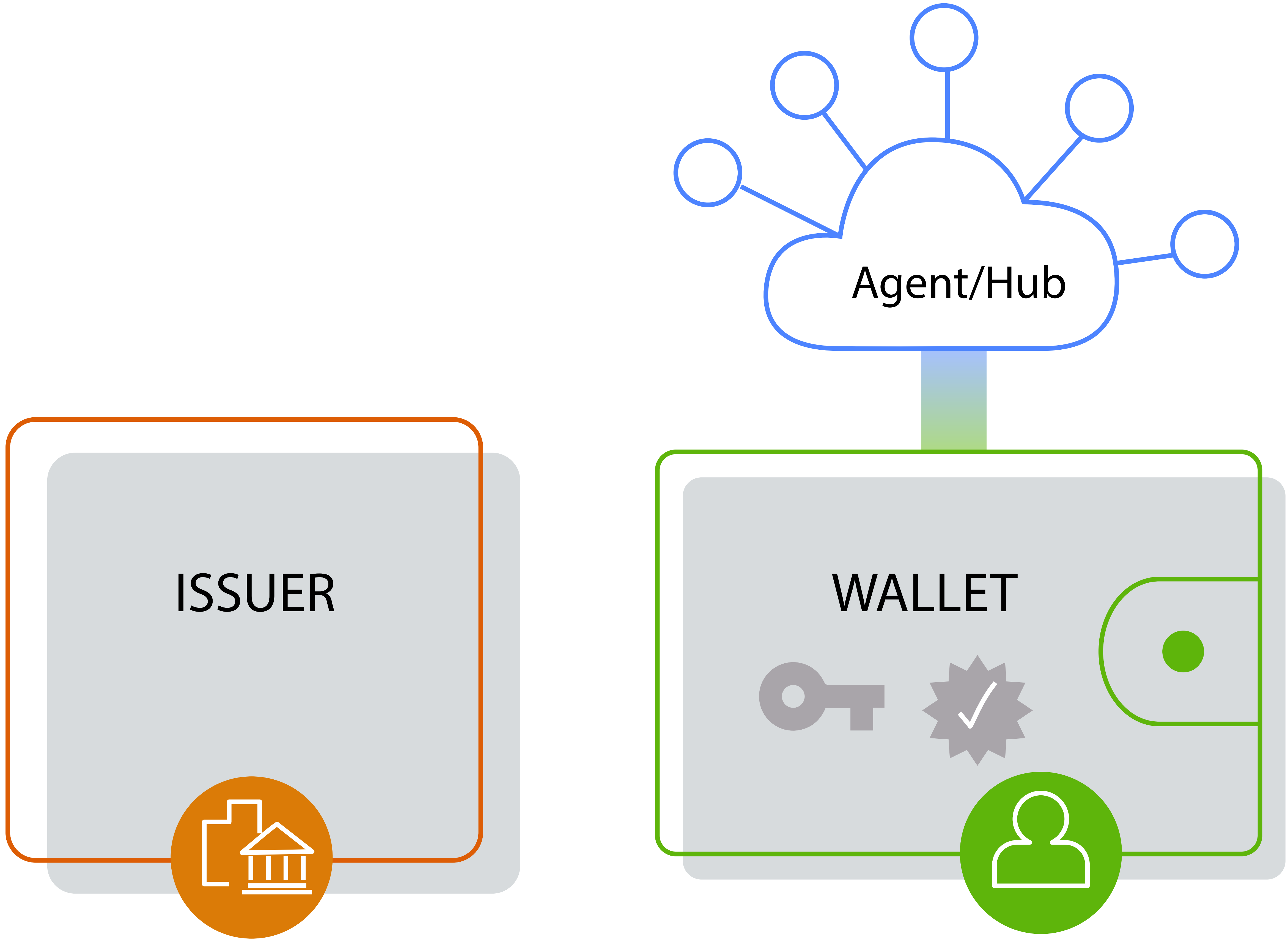
Fancy print gimmicks might make a credential seem authentic but these are easy to forge these days.

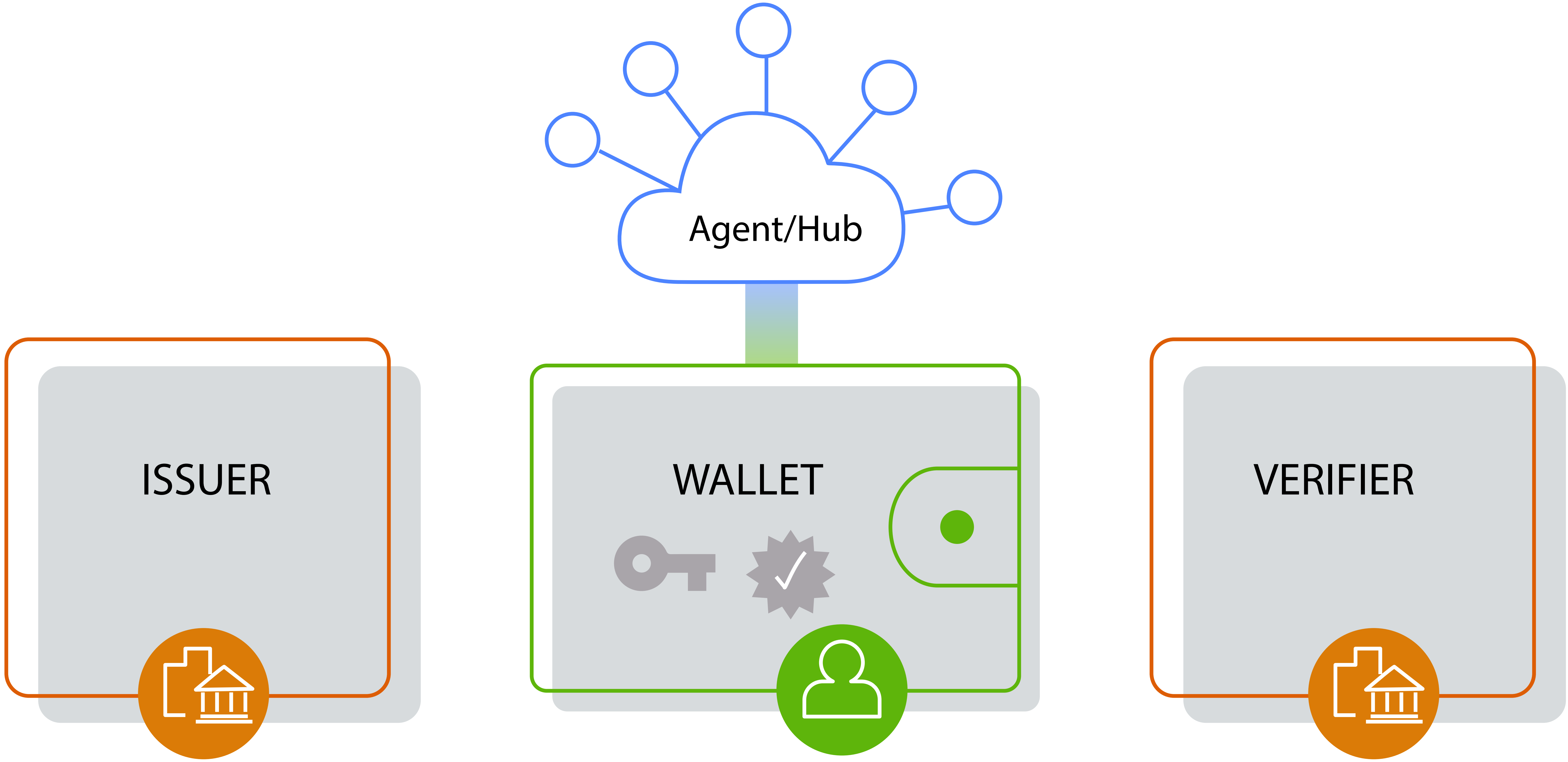
THE CENTRALIZED DATABASE

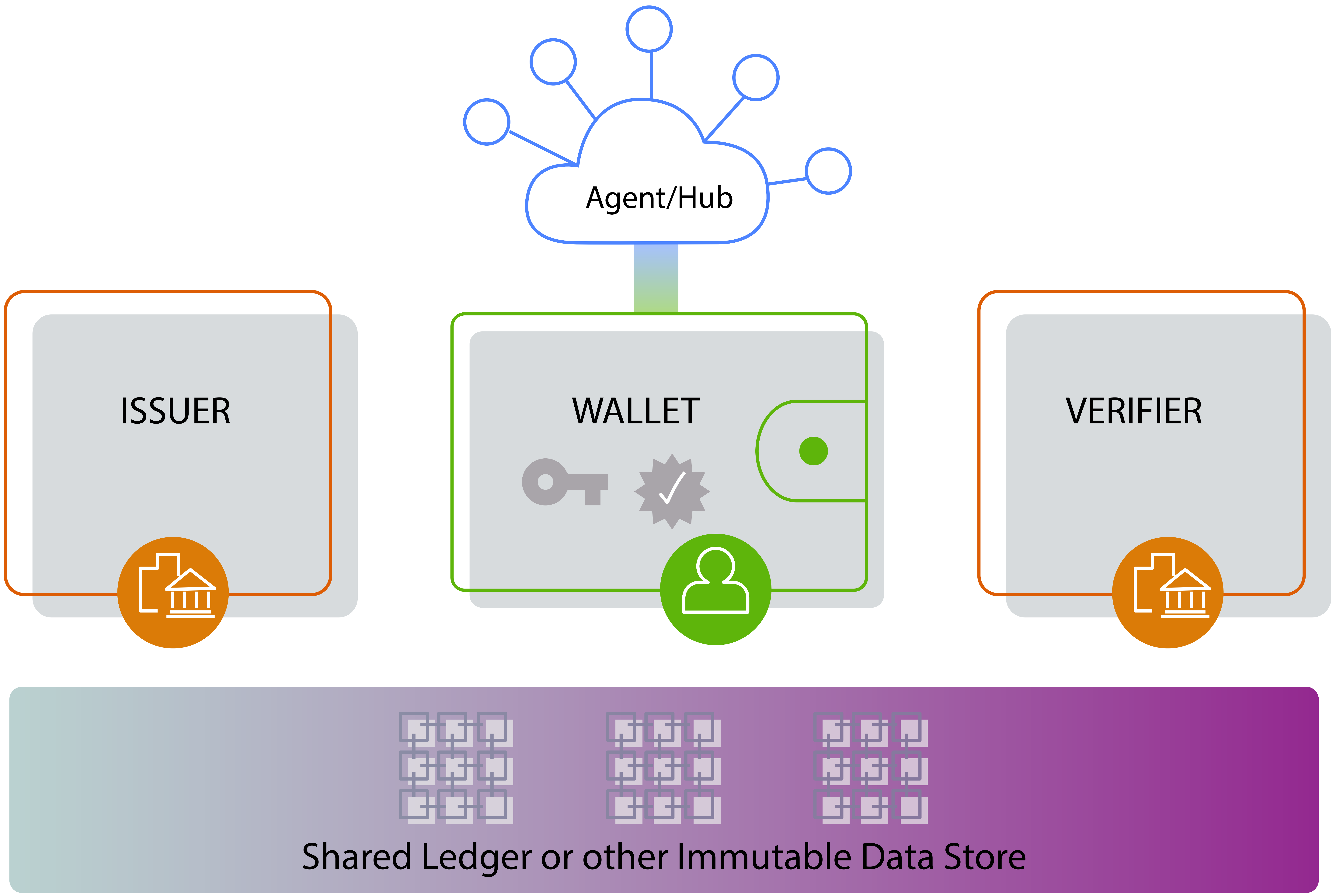
Verification systems are overly complex … and create privacy problem.

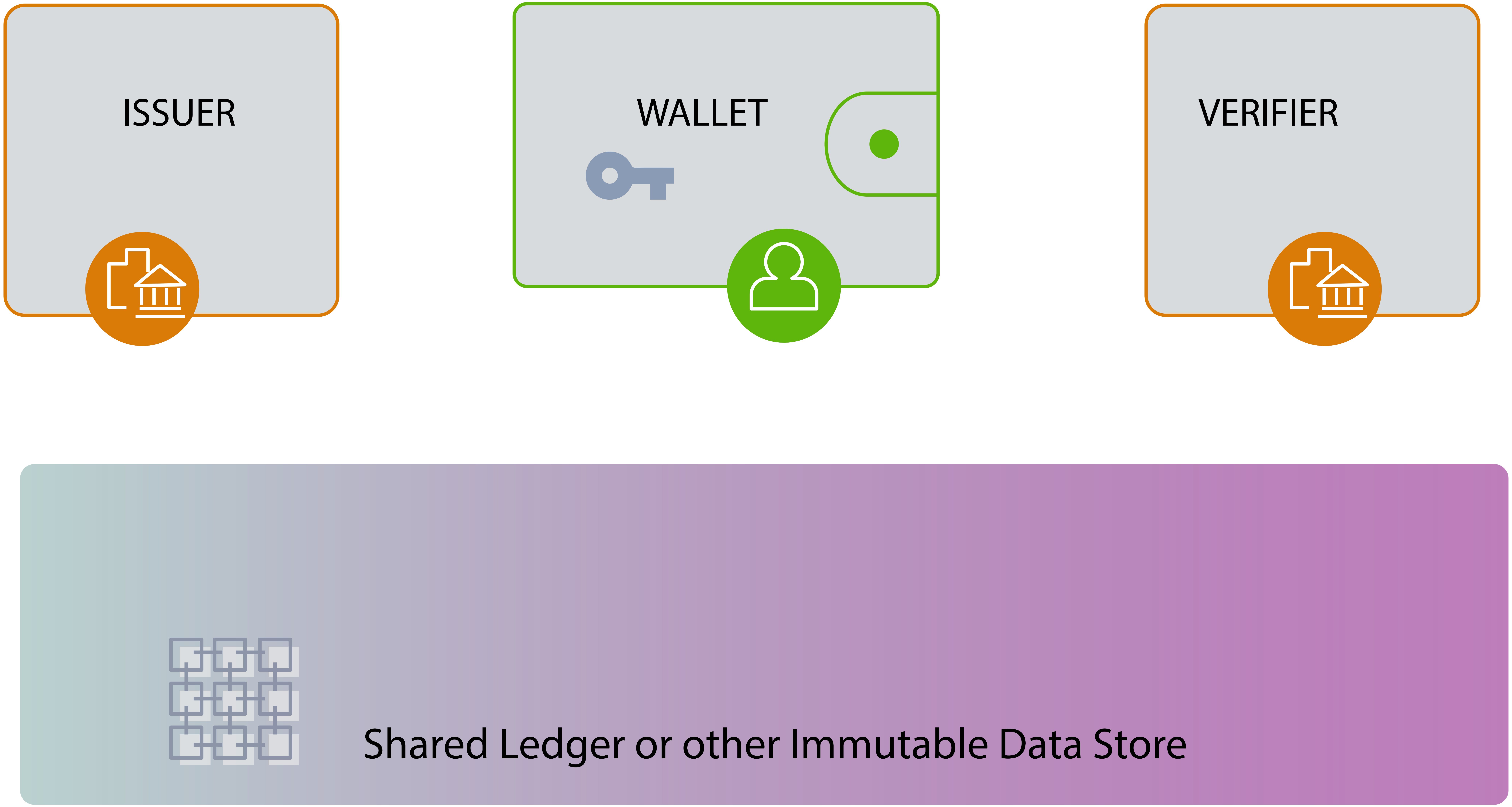



Agent/Hub
WALLET


Agent/Hub
ISSUER
WALLET


Agent/Hub
ISSUER
WALLET
VERIFIER


Agent/Hub
ISSUER
WALLET
VERIFIER
Shared Ledger or other Immutable Data Store

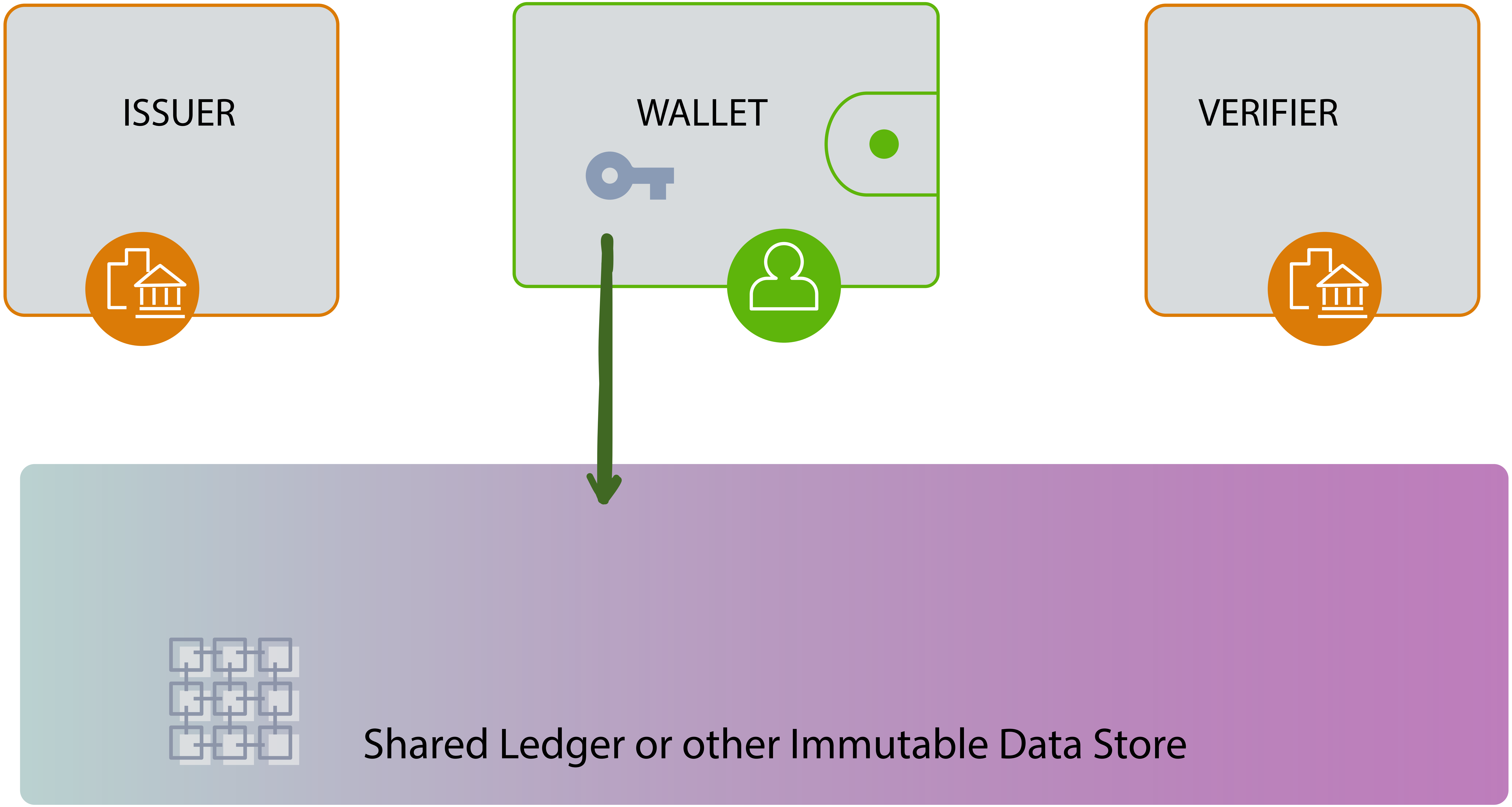


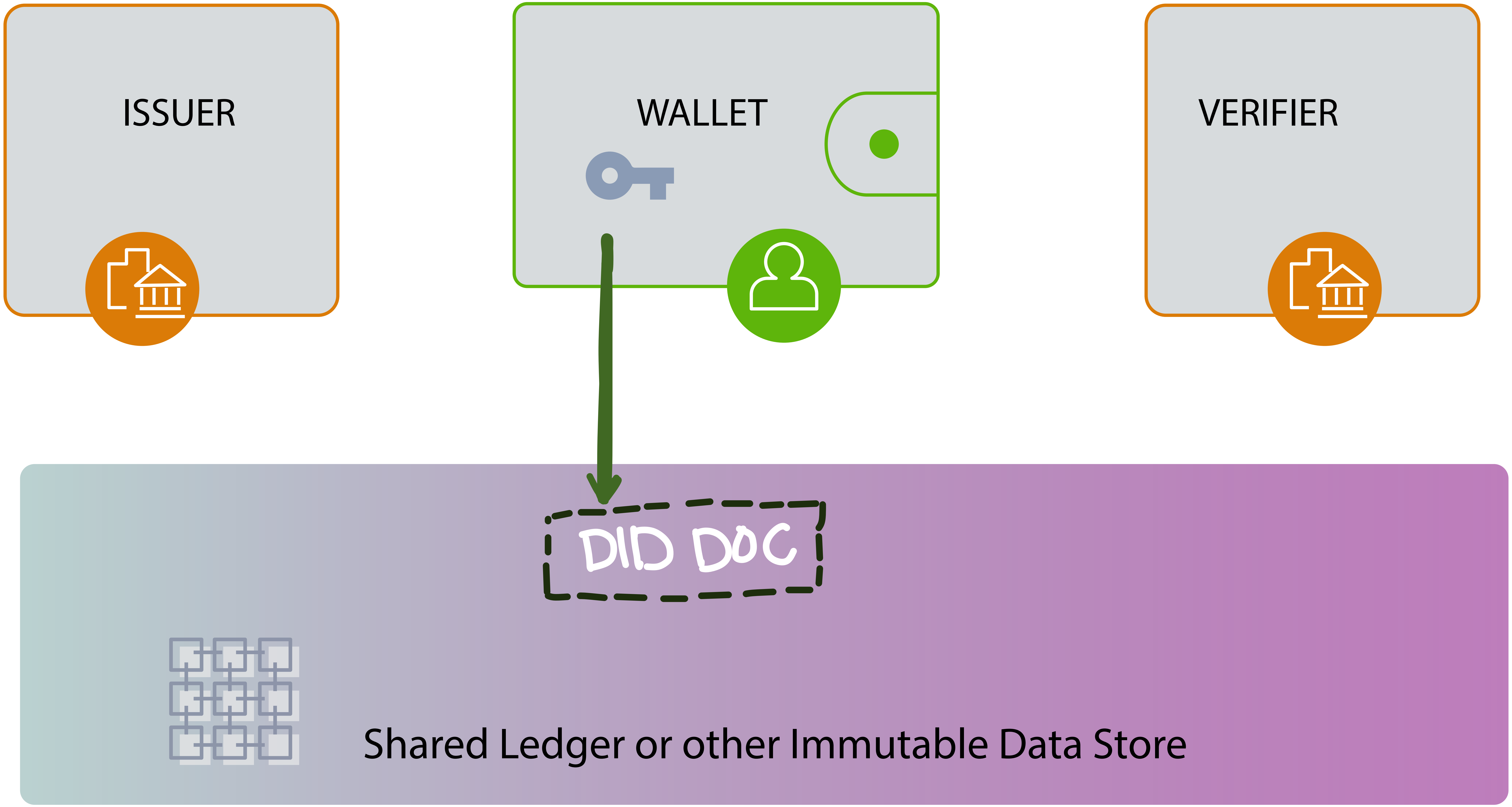
ISSUER

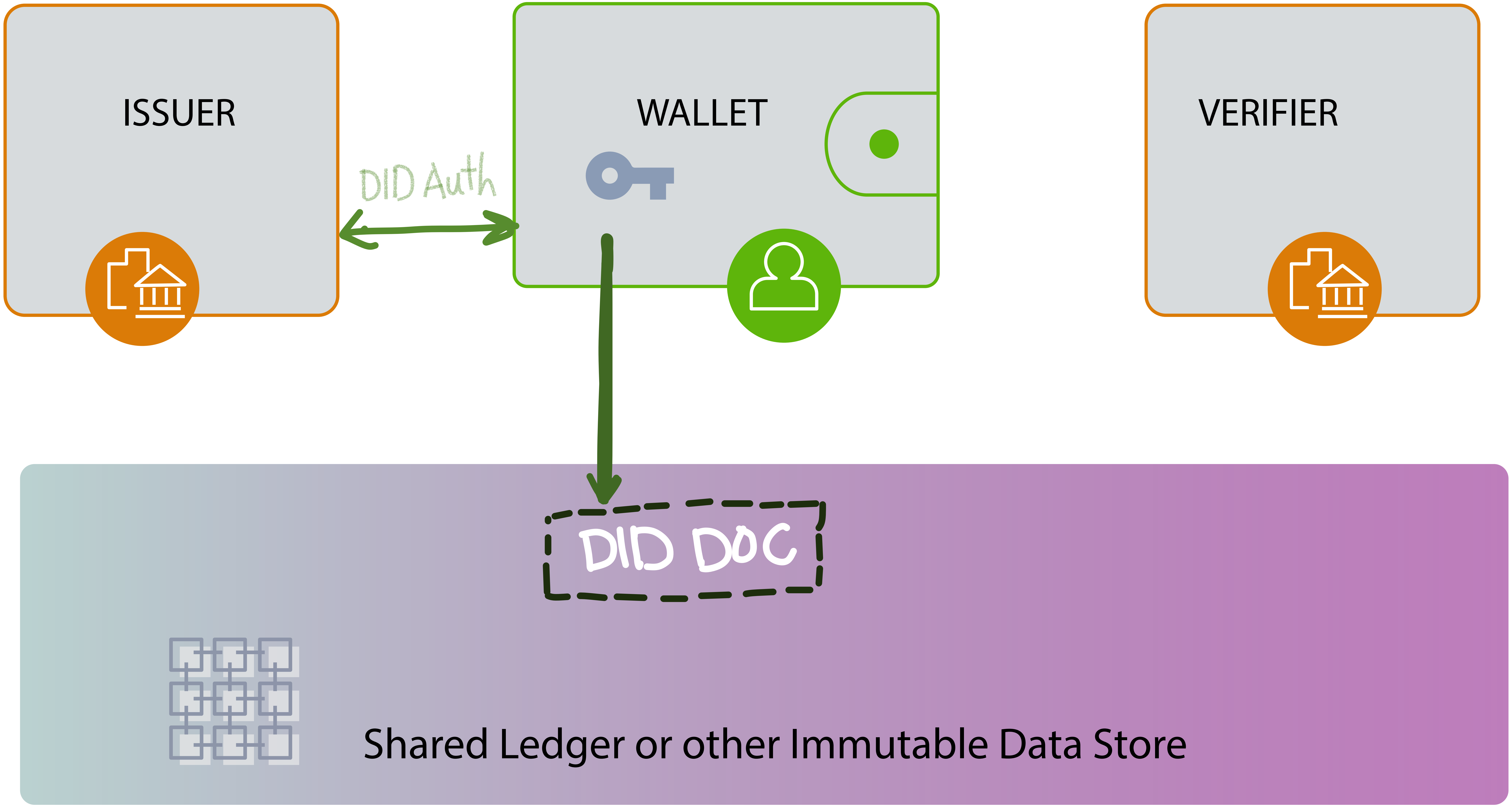
WALLET

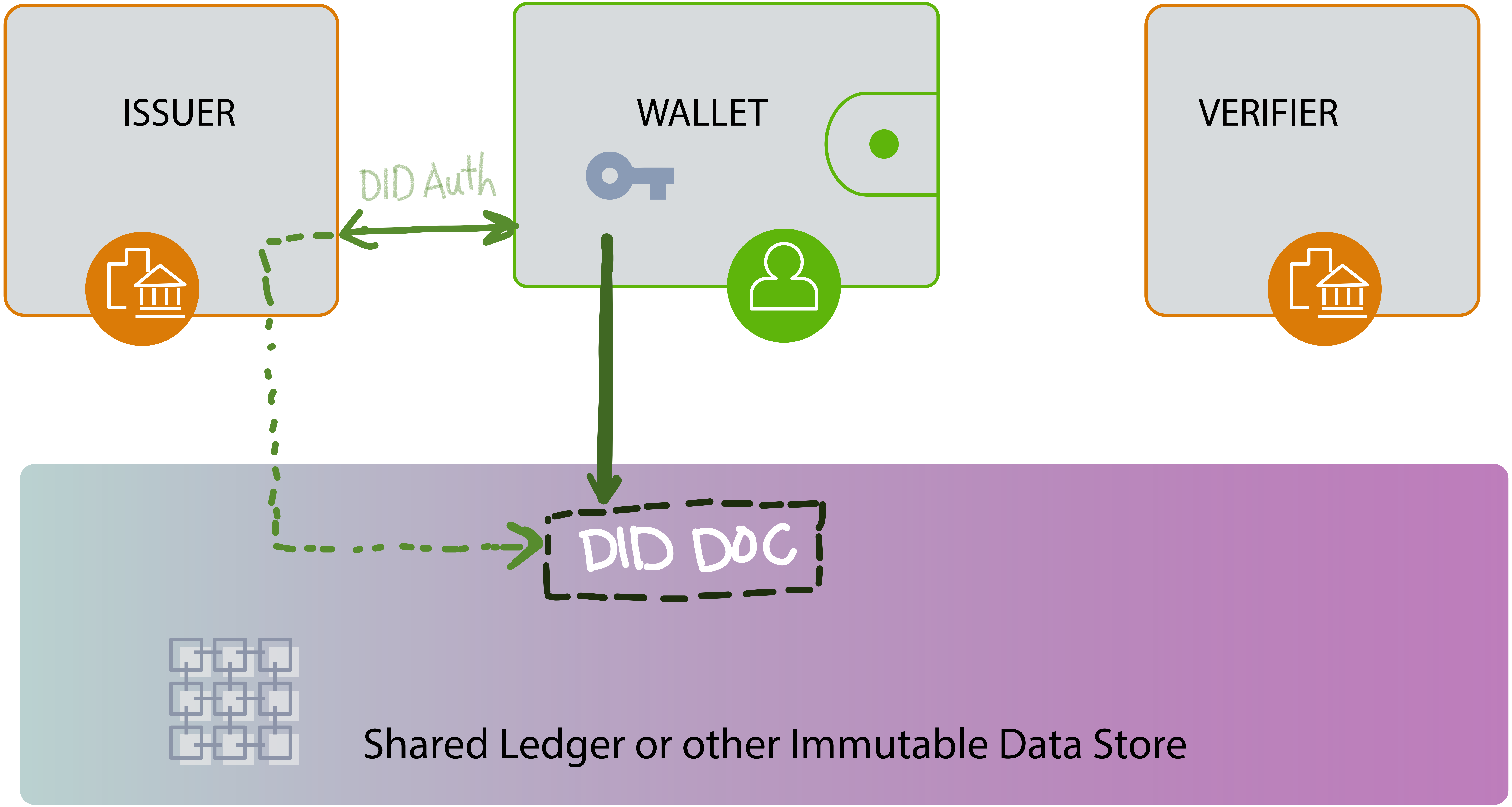
VERIFIER

Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID DOC
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID DOC
Shared Ledger or other Immutable Data Store

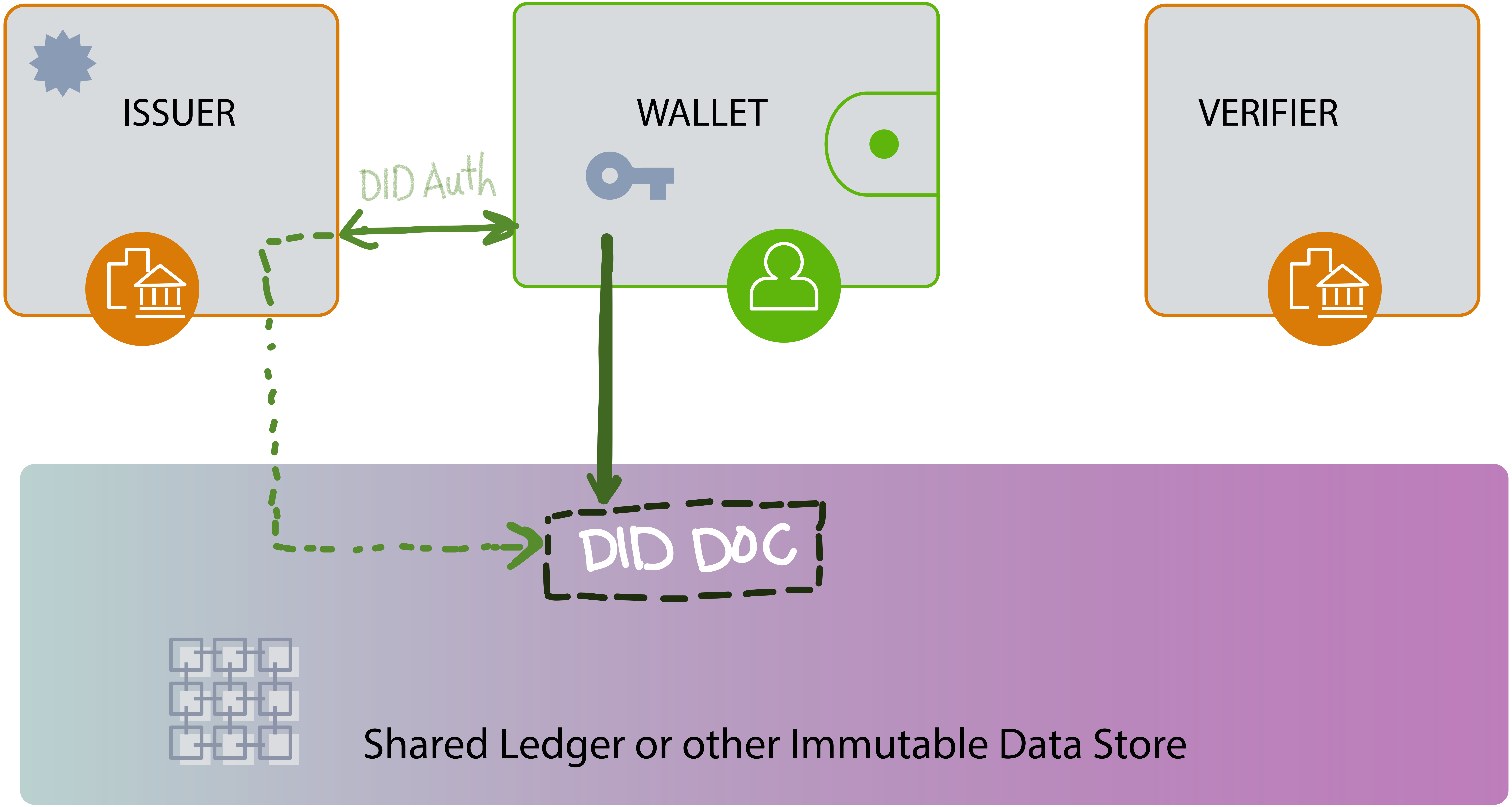


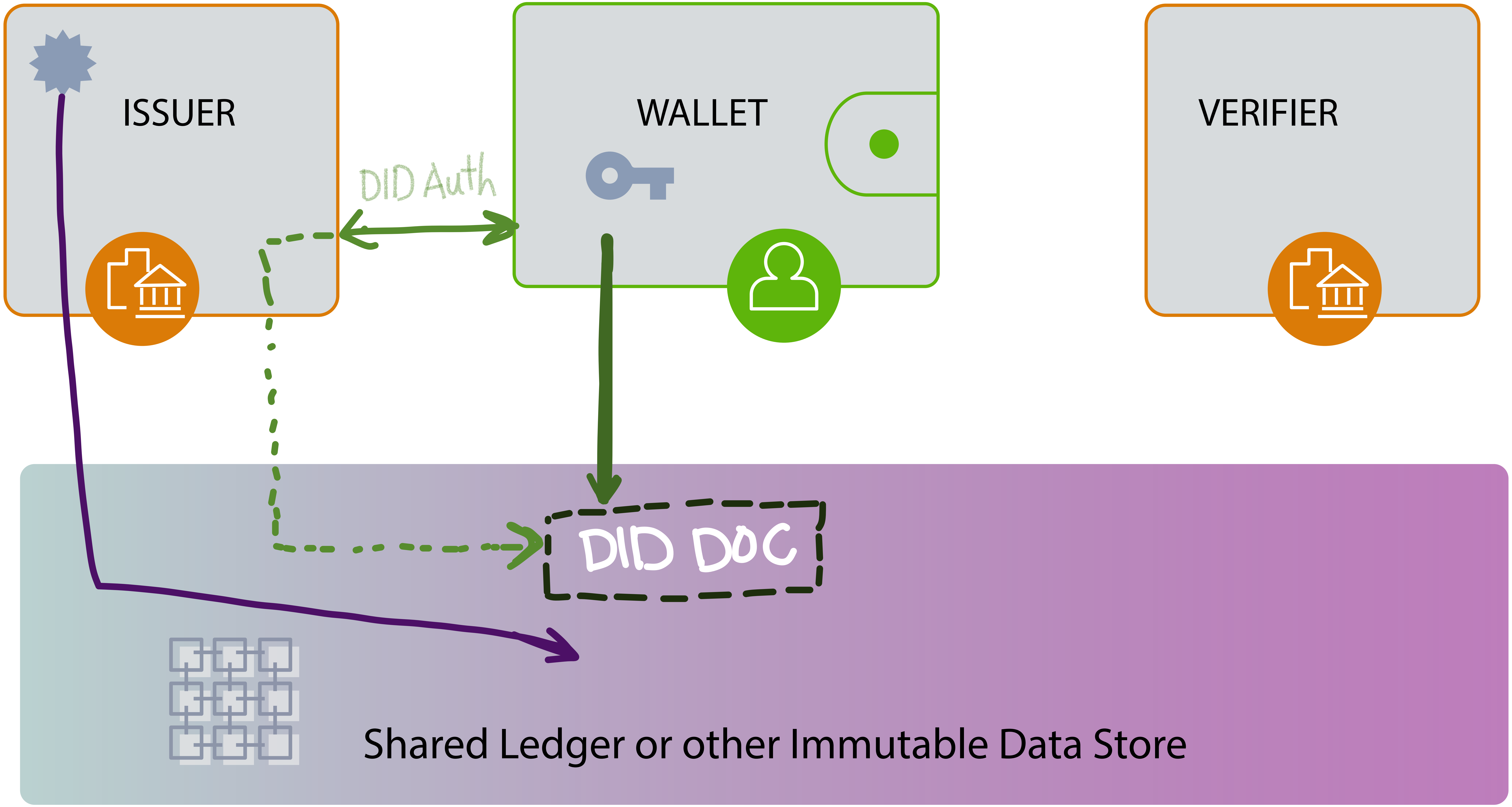
ISSUER

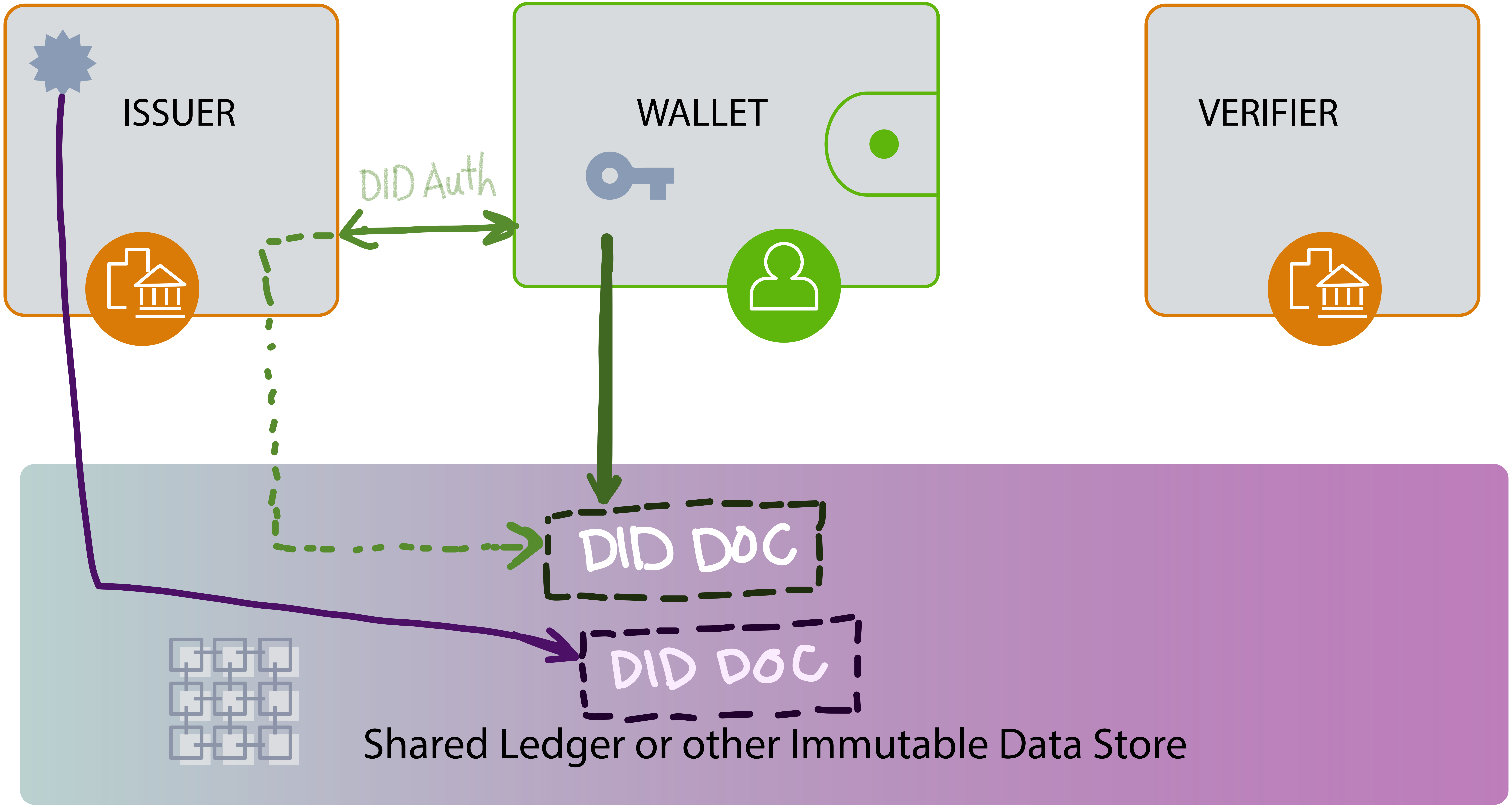
WALLET

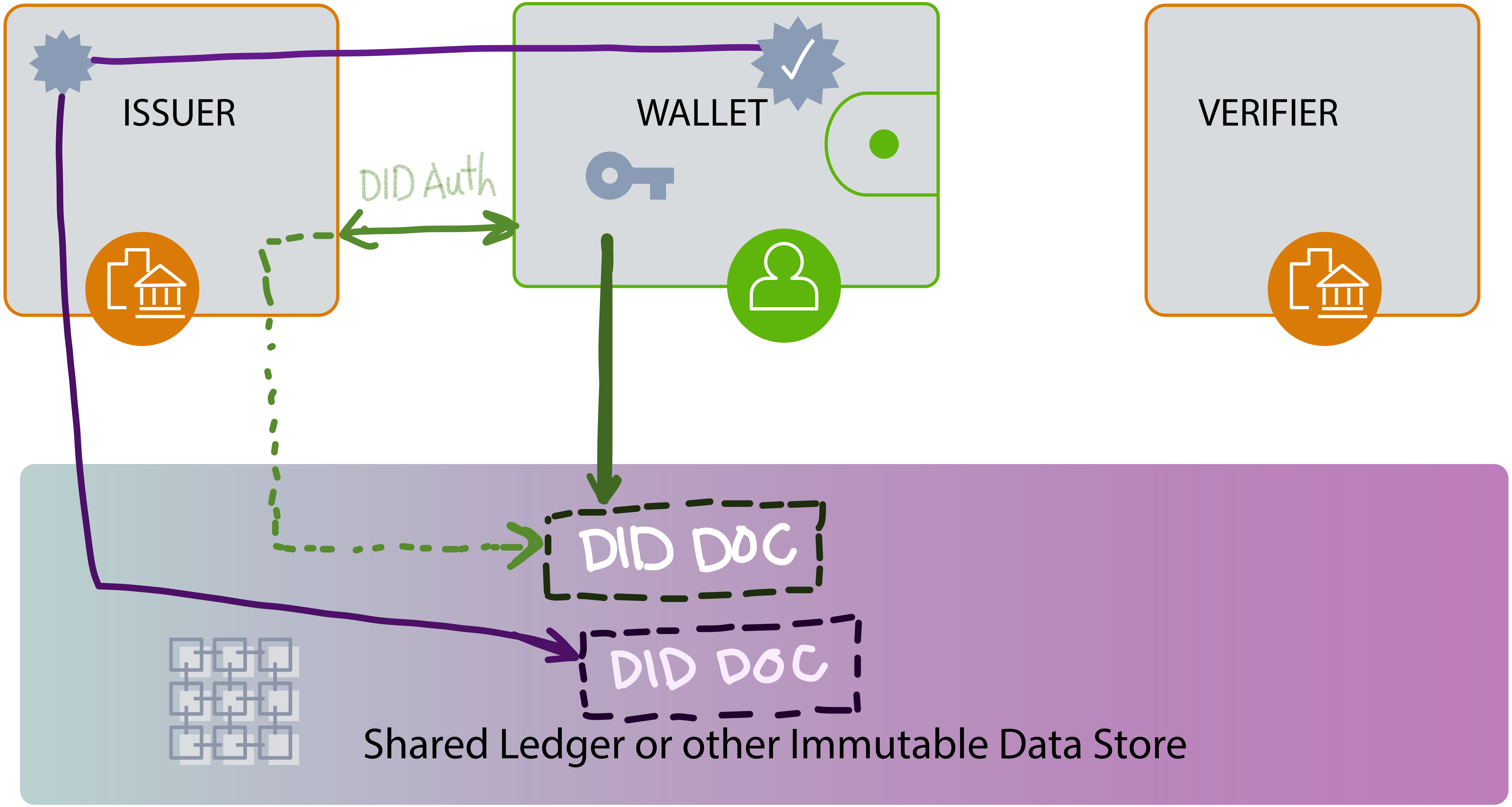
VERIFIER

Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID DOC
Shared Ledger or other Immutable Data Store

ISSUER
WALLET
VERIFIER
DID Auth
DID DOC
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store



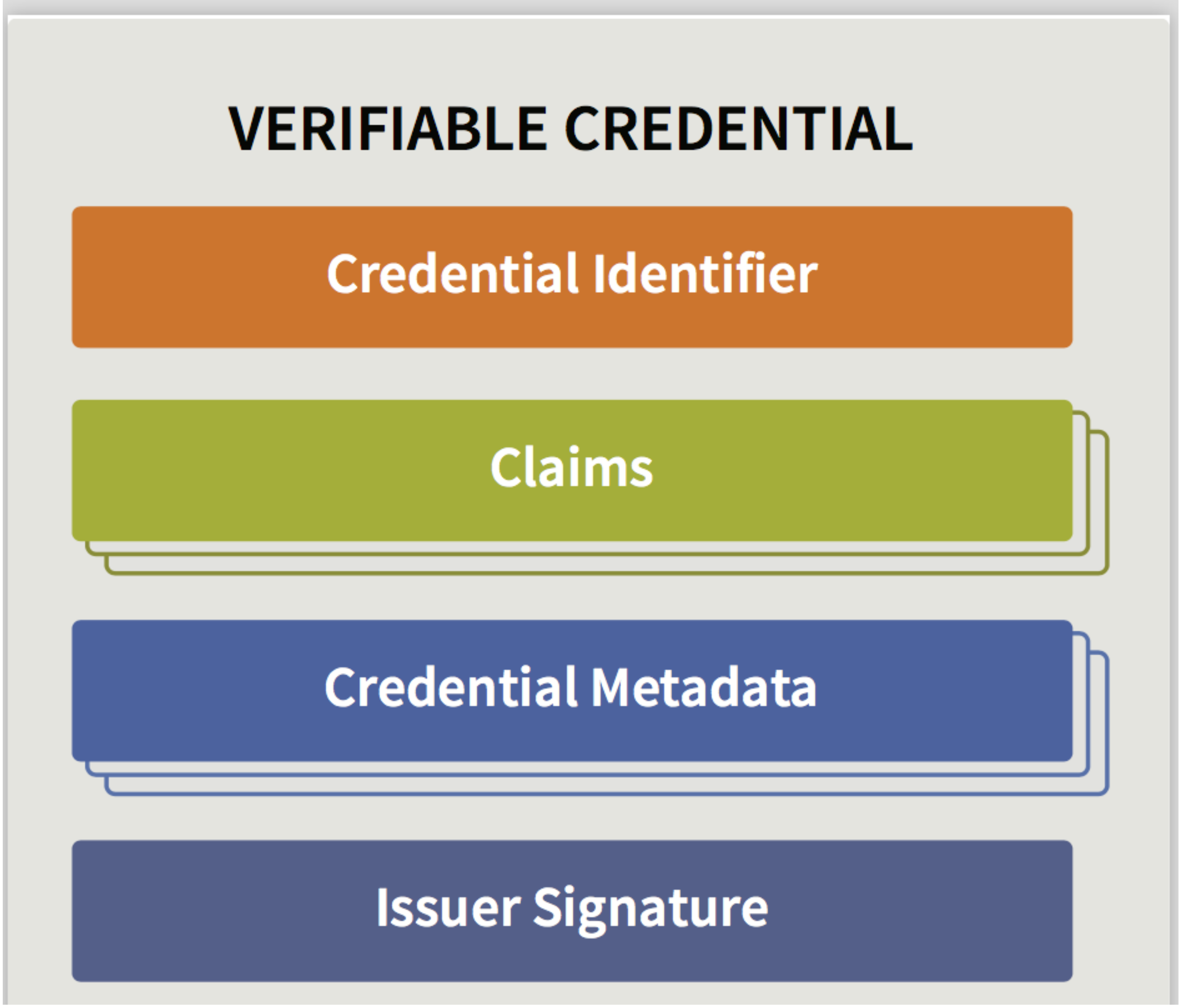
ISSUER

WALLET

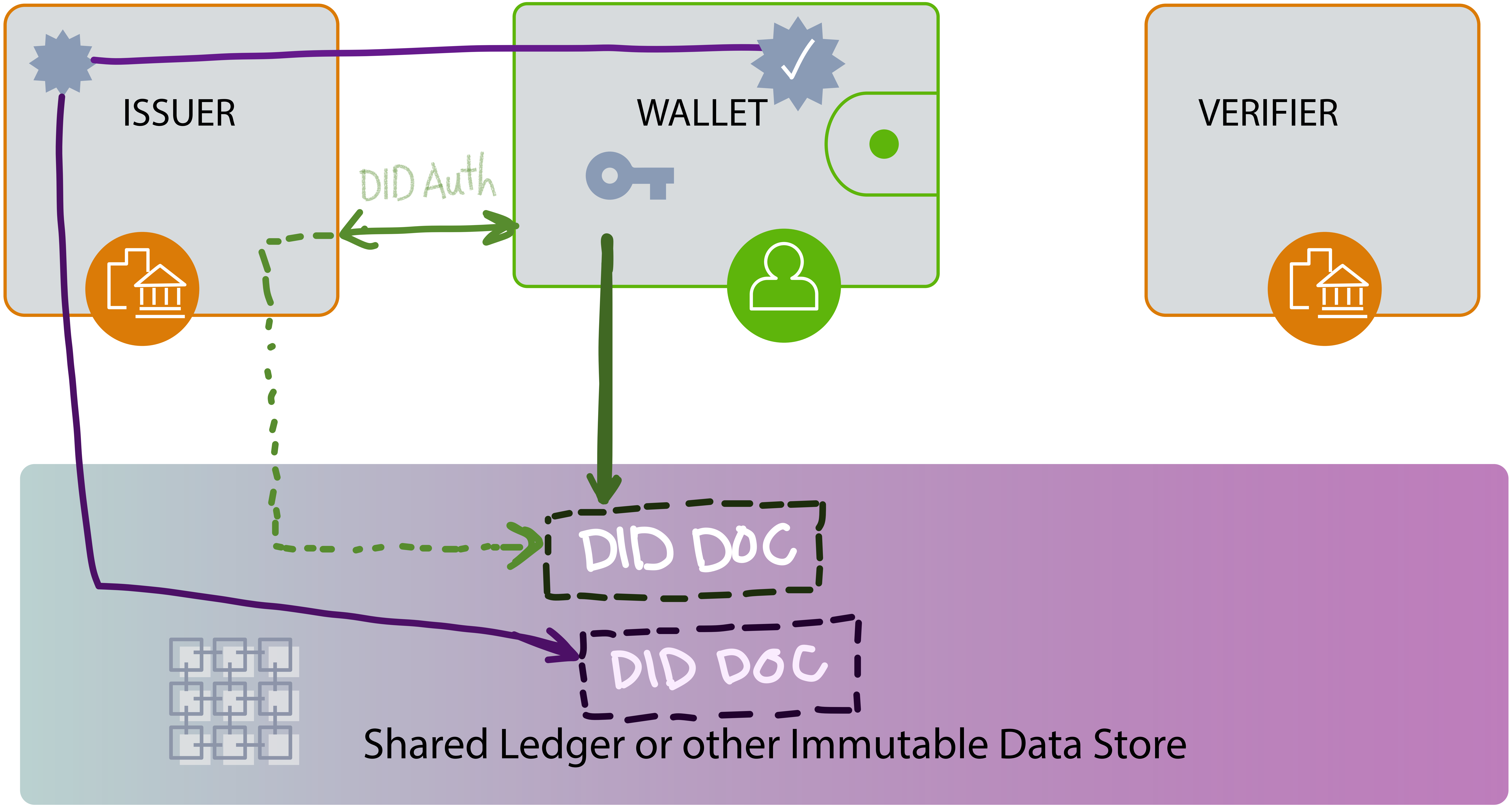
VERIFIER

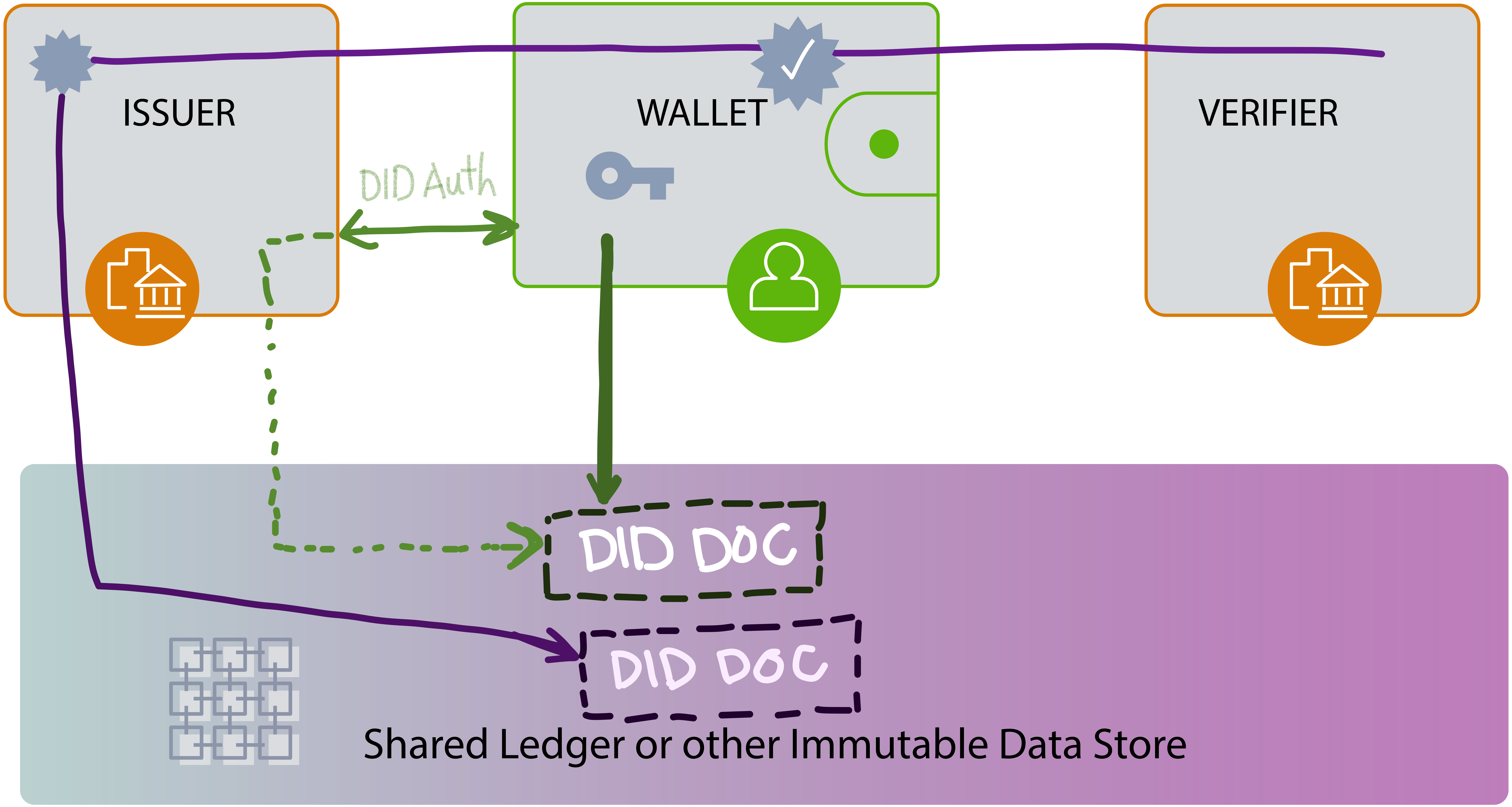
Shared Ledger or other Immutable Data Store

A Verifiable Credential has a standard format.



Slide credit: Manu Sporny Veres One


ISSUER
WALLET
VERIFIER
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store

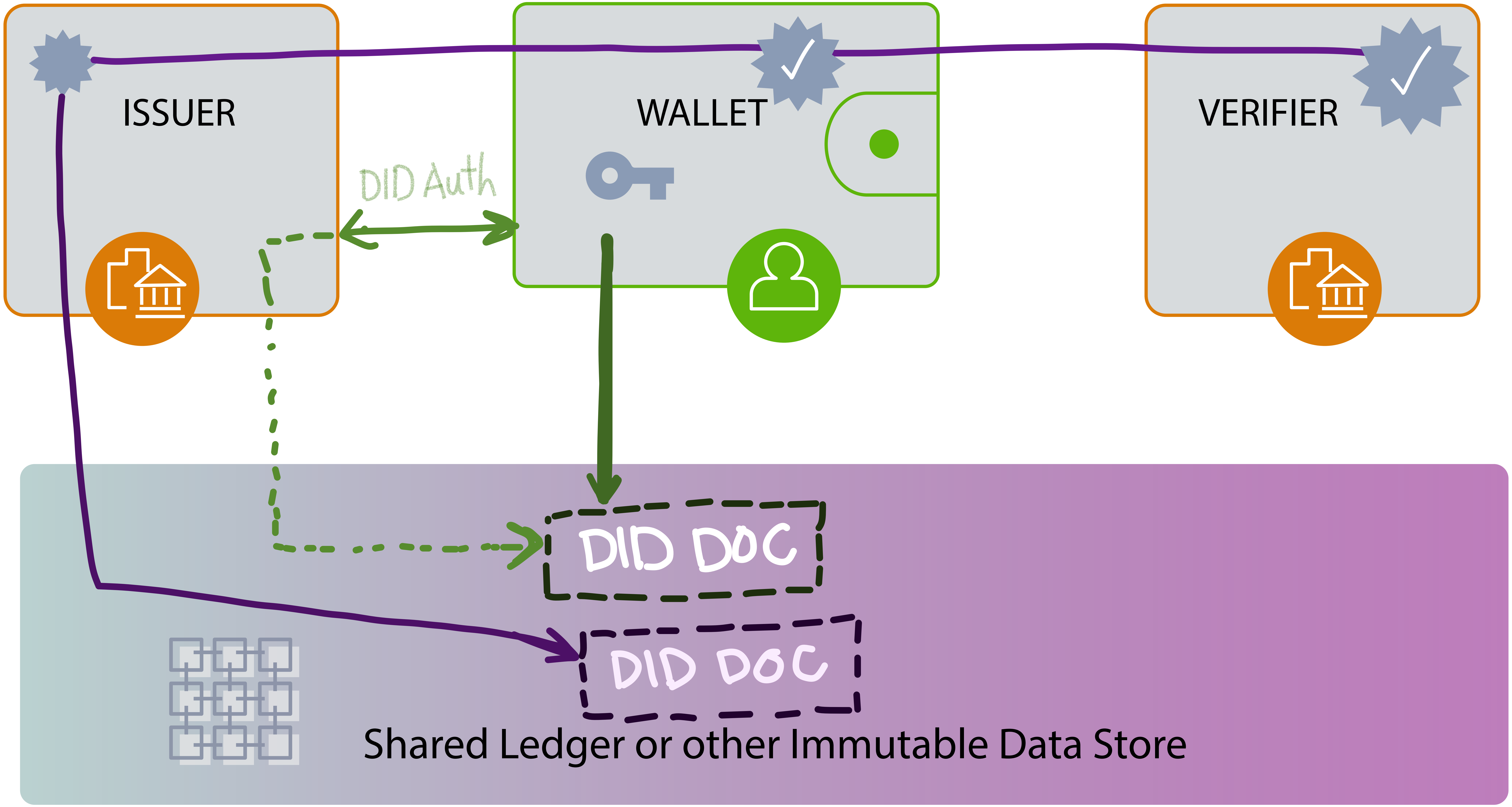


ISSUER

WALLET

VERIFIER

Shared Ledger or other Immutable Data Store

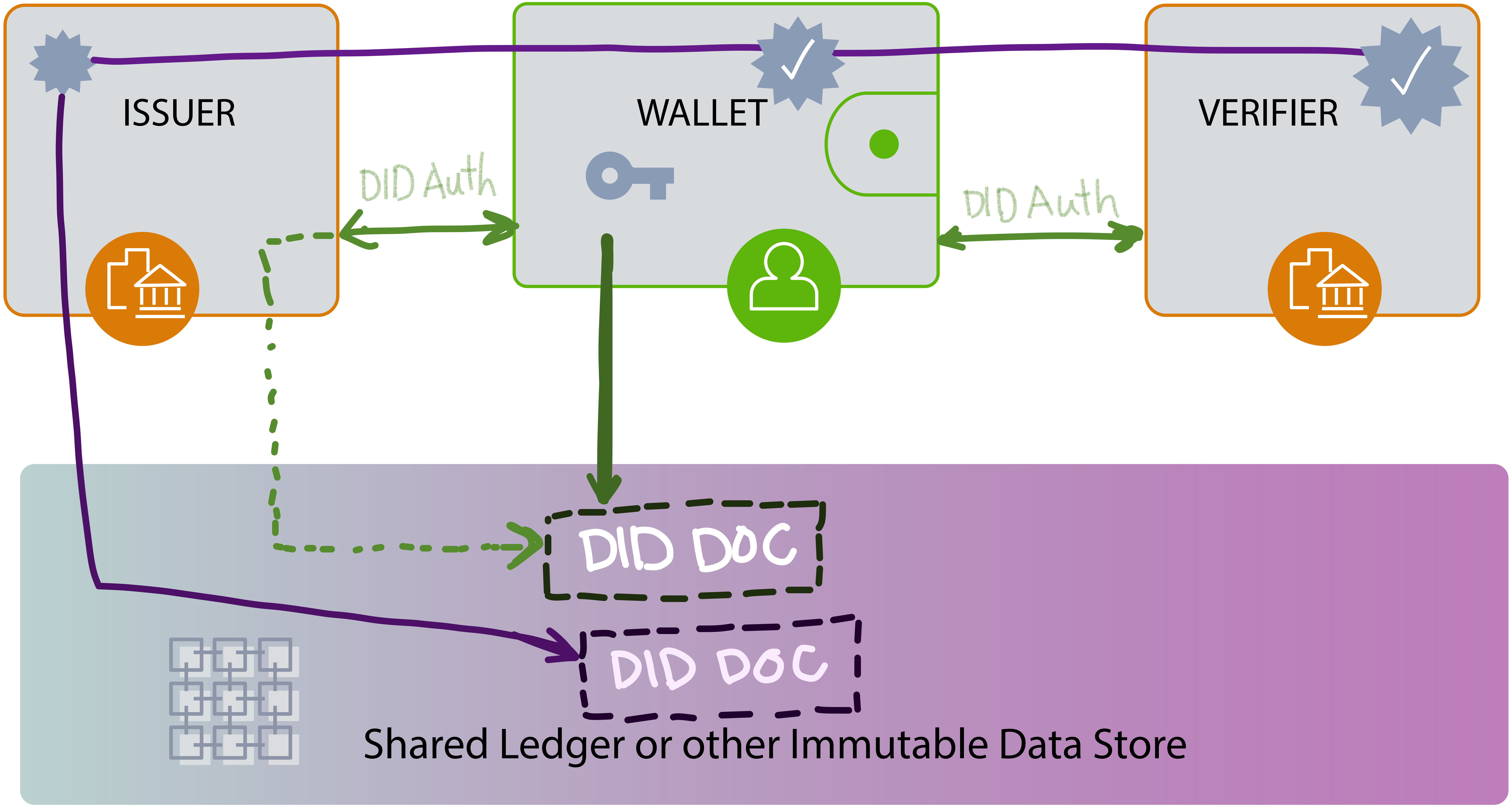


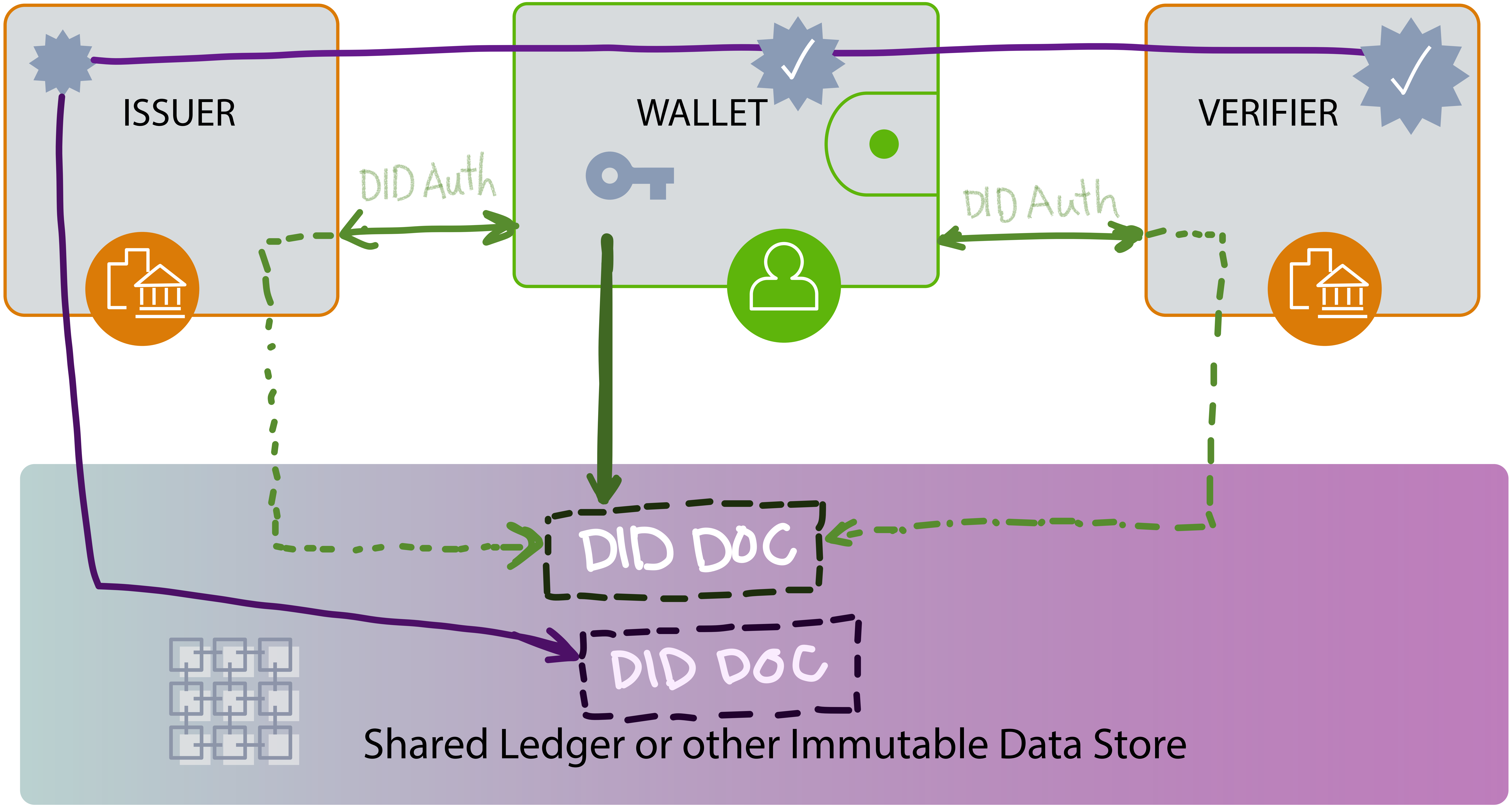
ISSUER

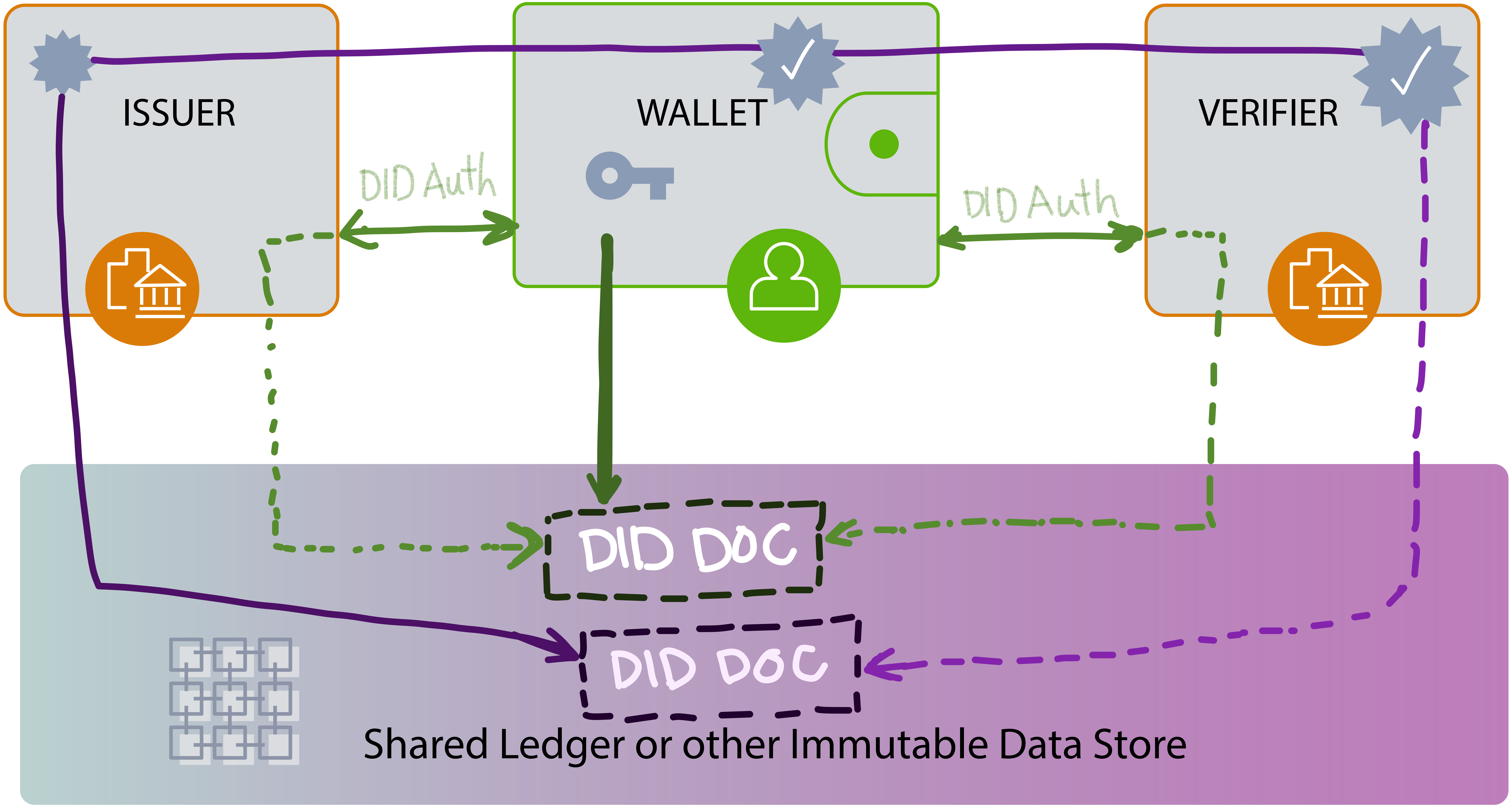
WALLET

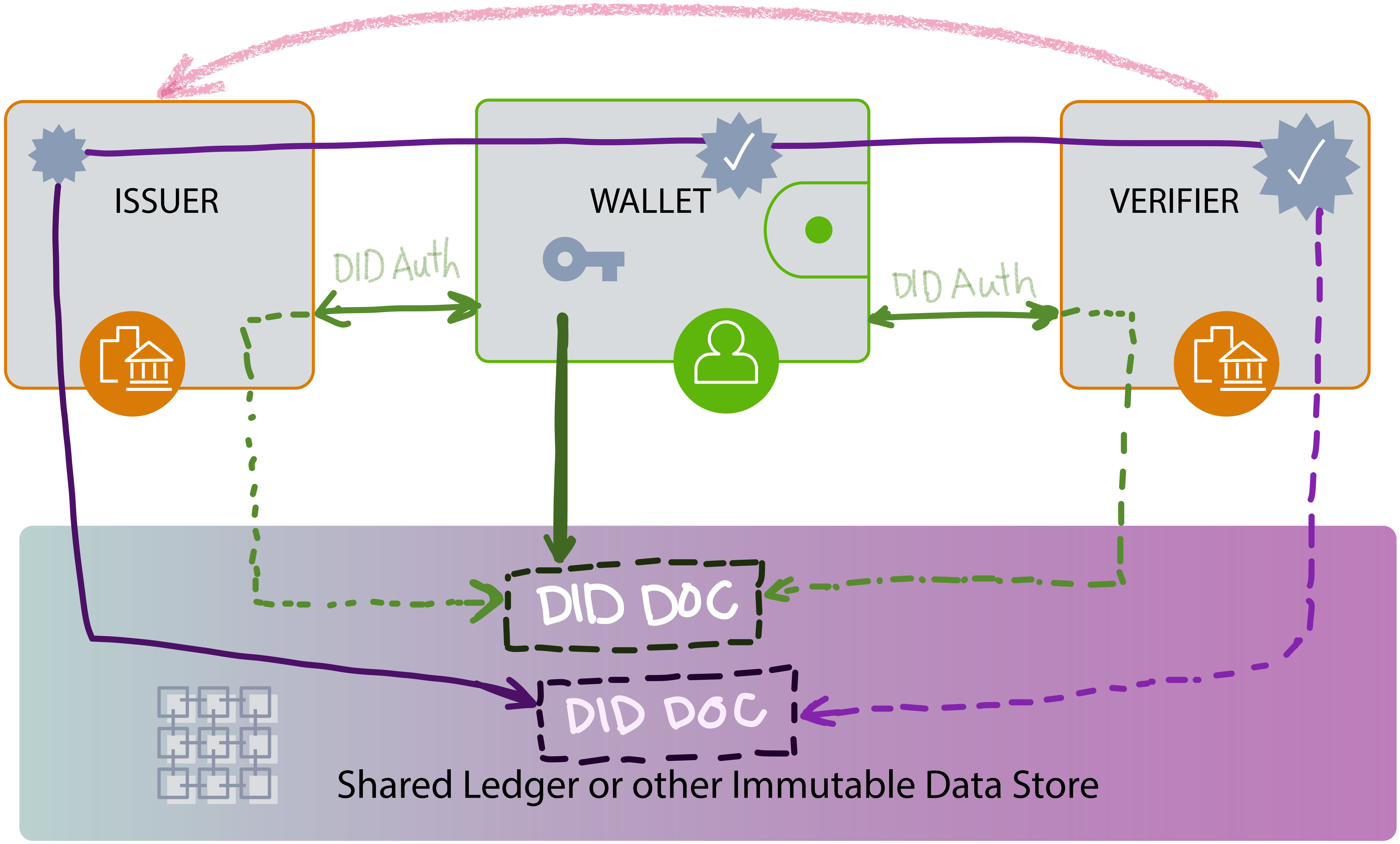
VERIFIER

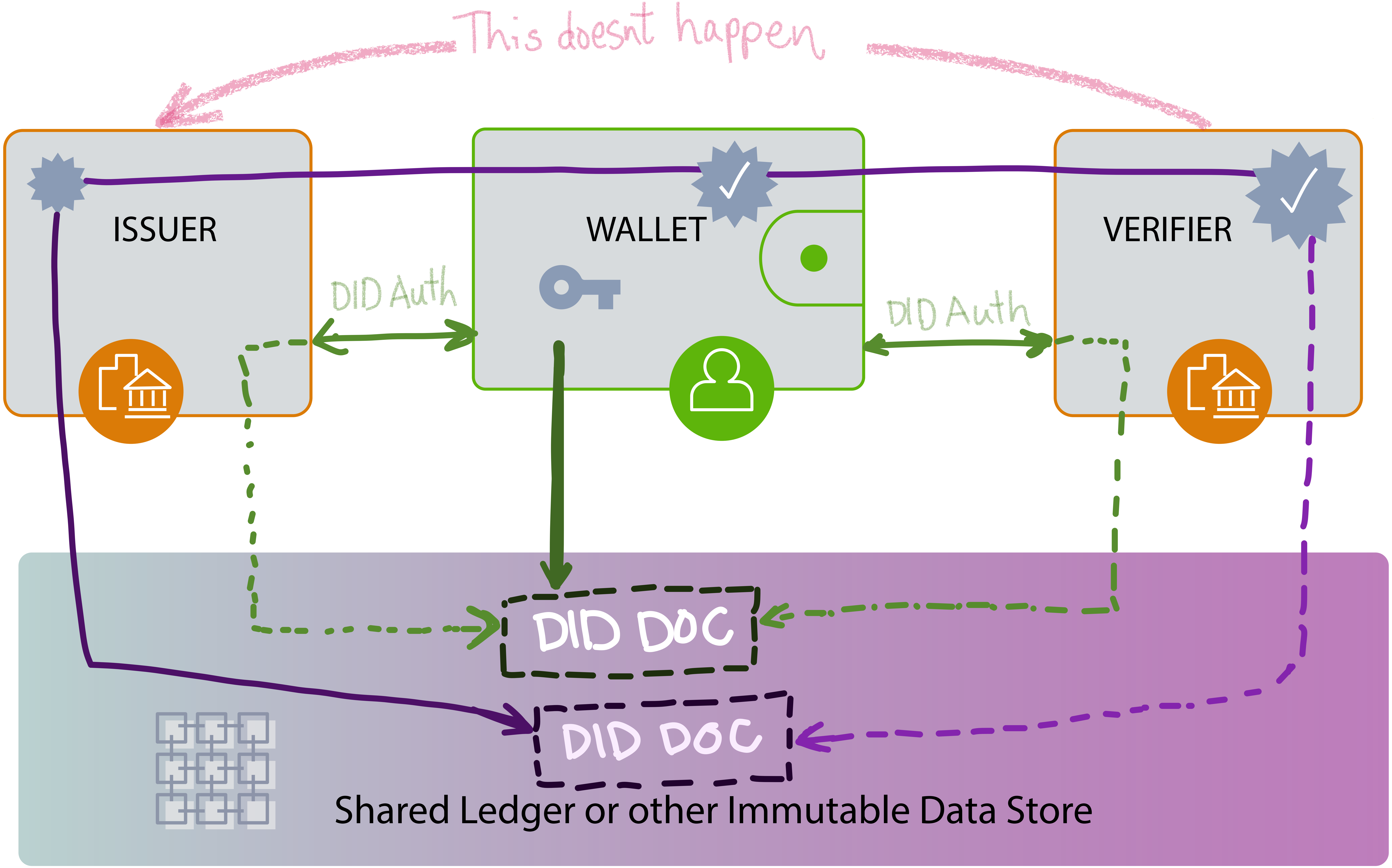
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store


ISSUER
WALLET
VERIFIER
DID Auth
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store

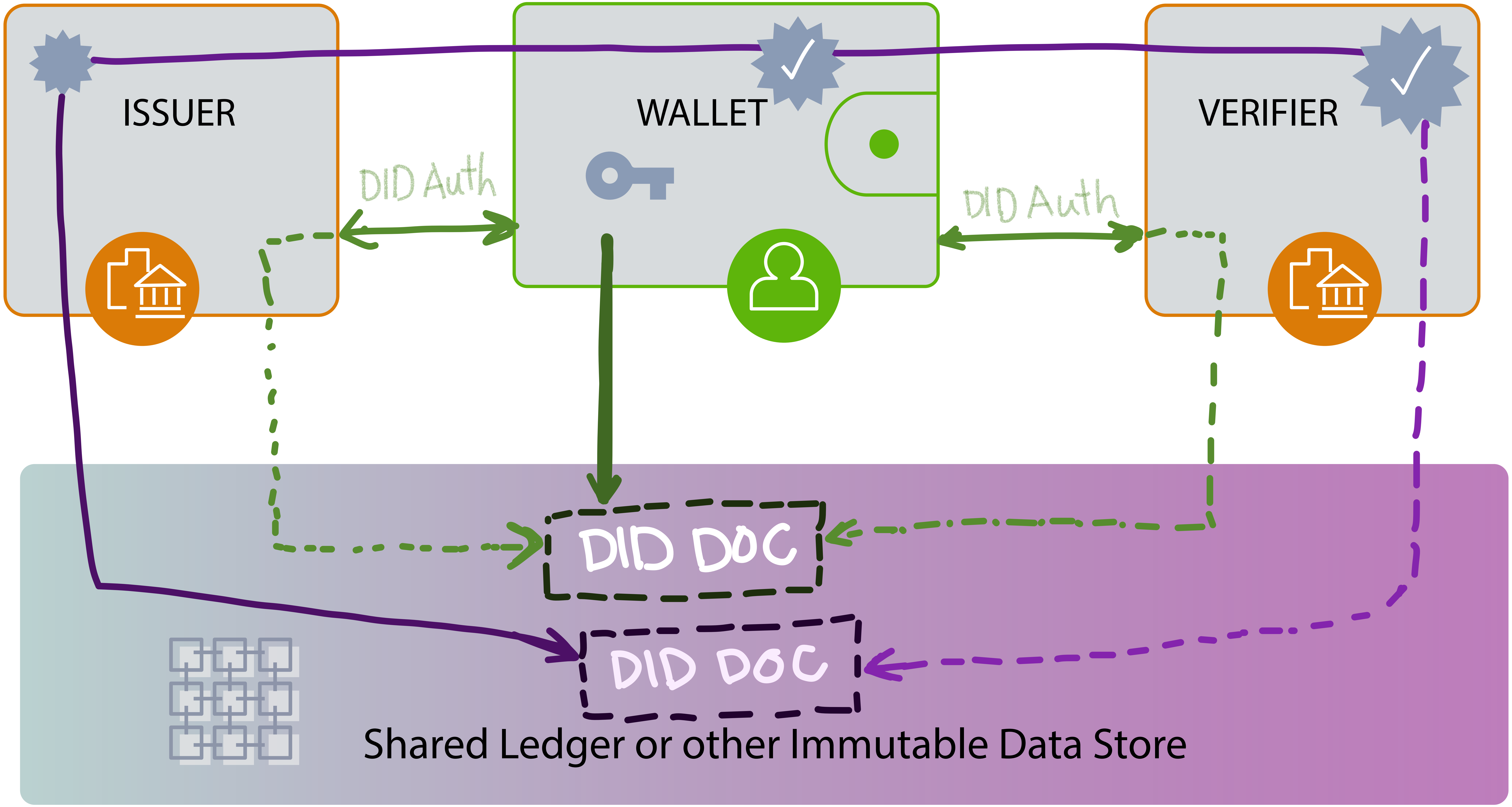


ISSUER

WALLET

VERIFIER

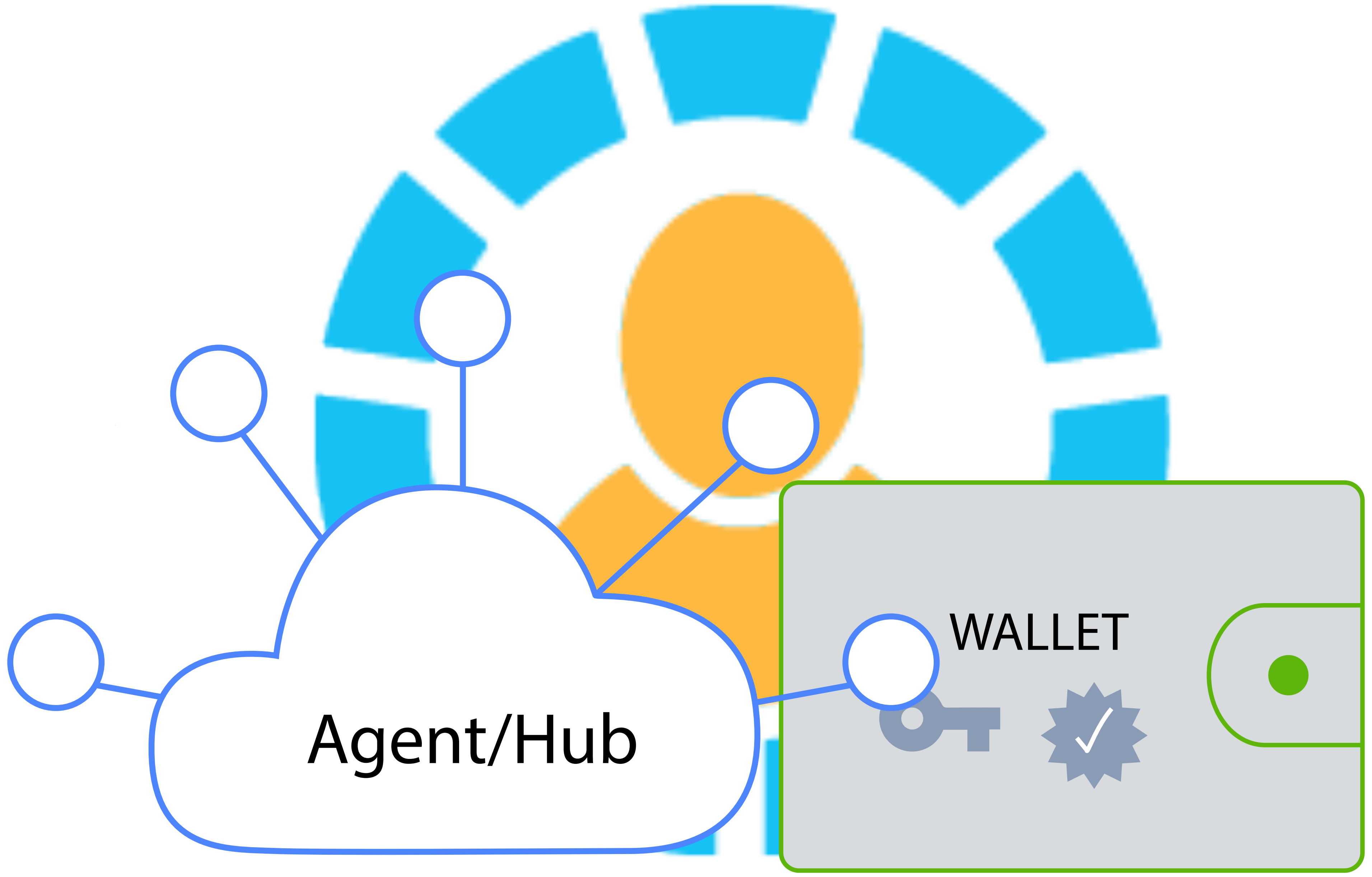
Shared Ledger or other Immutable Data Store

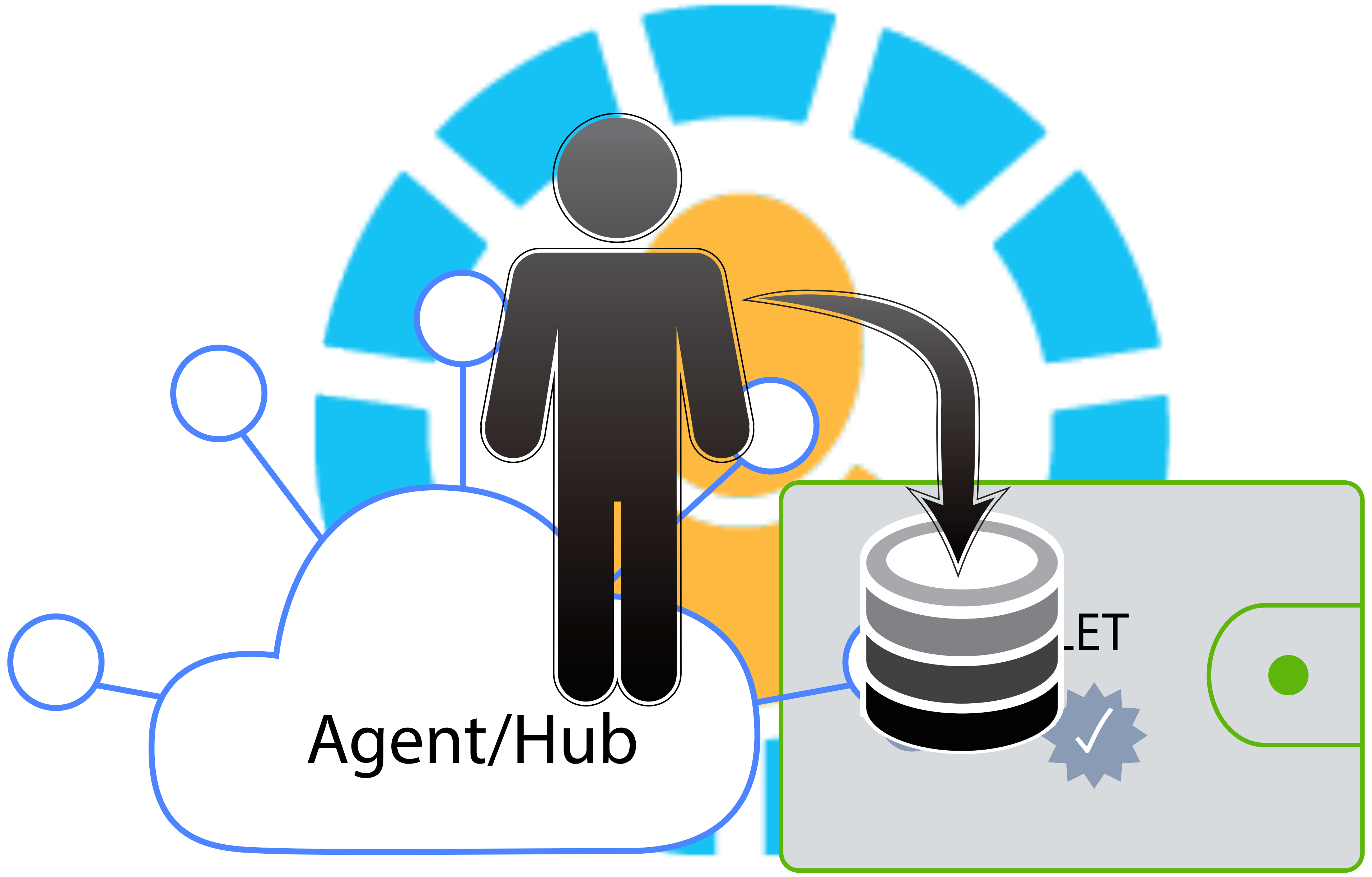

ISSUER
WALLET
VERIFIER
DID Auth
DID Auth
DID DOC
DID DOC
Shared Ledger or other Immutable Data Store

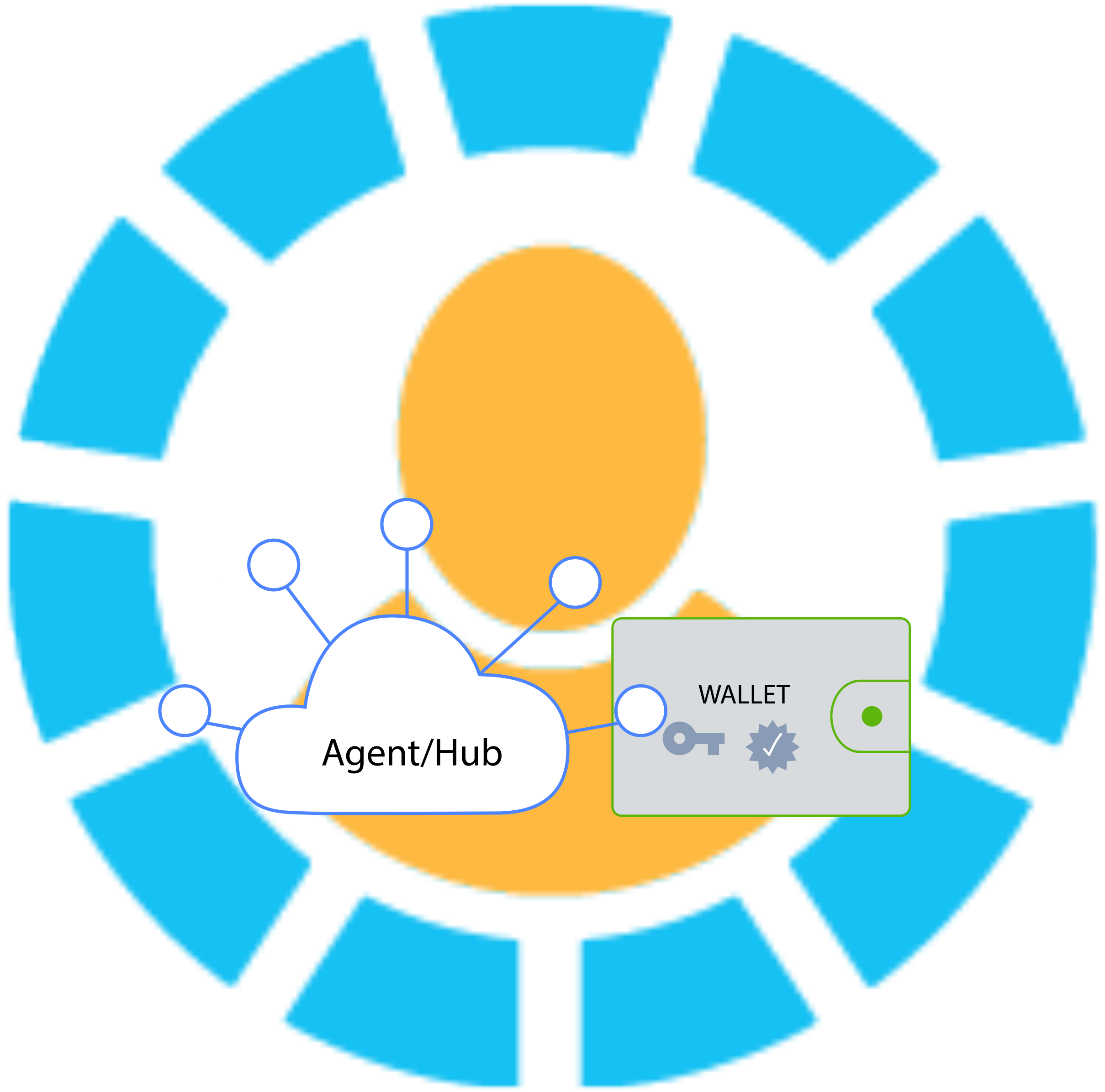
No PII

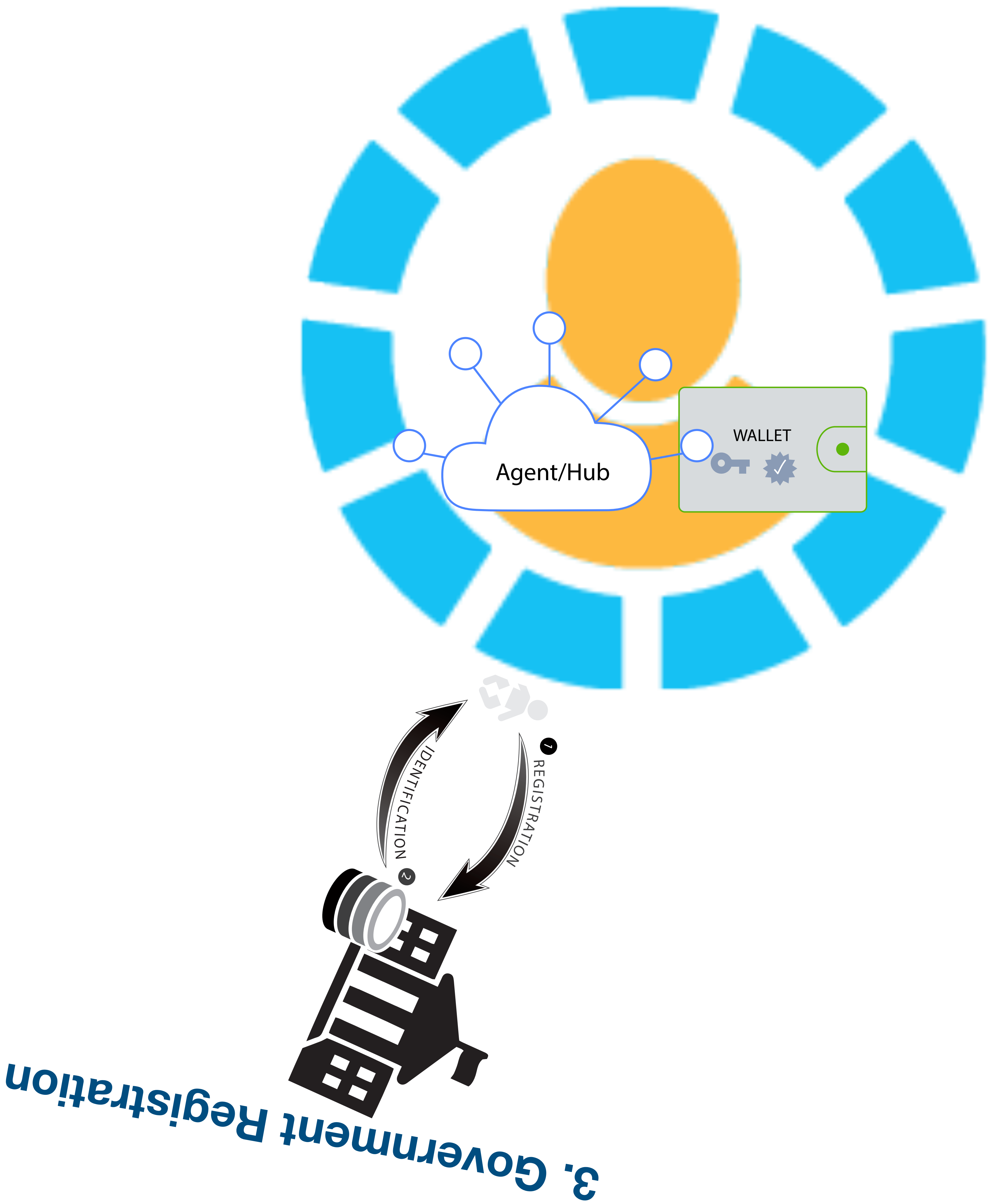
ends up on the shared ledgers

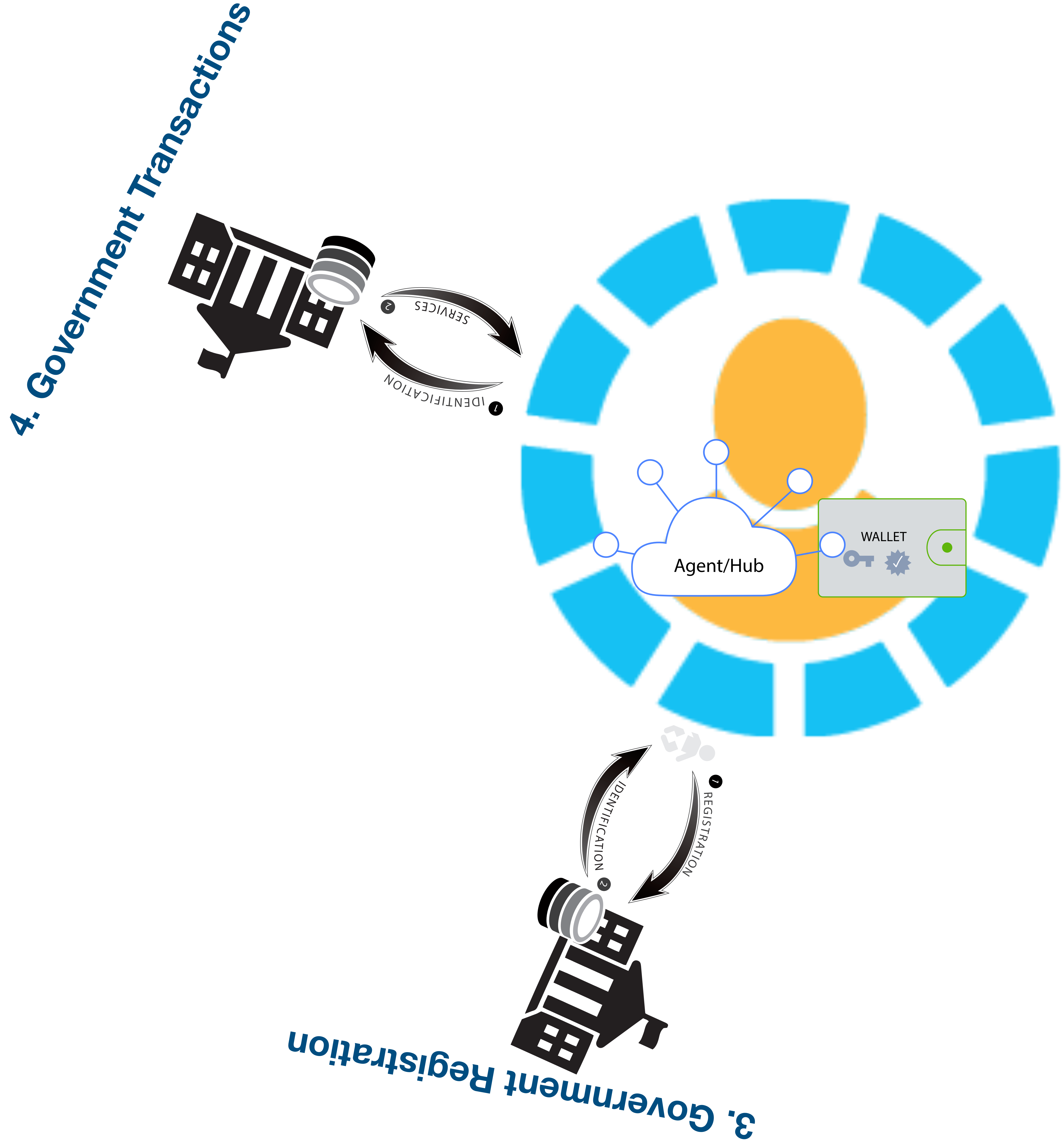
WALLET

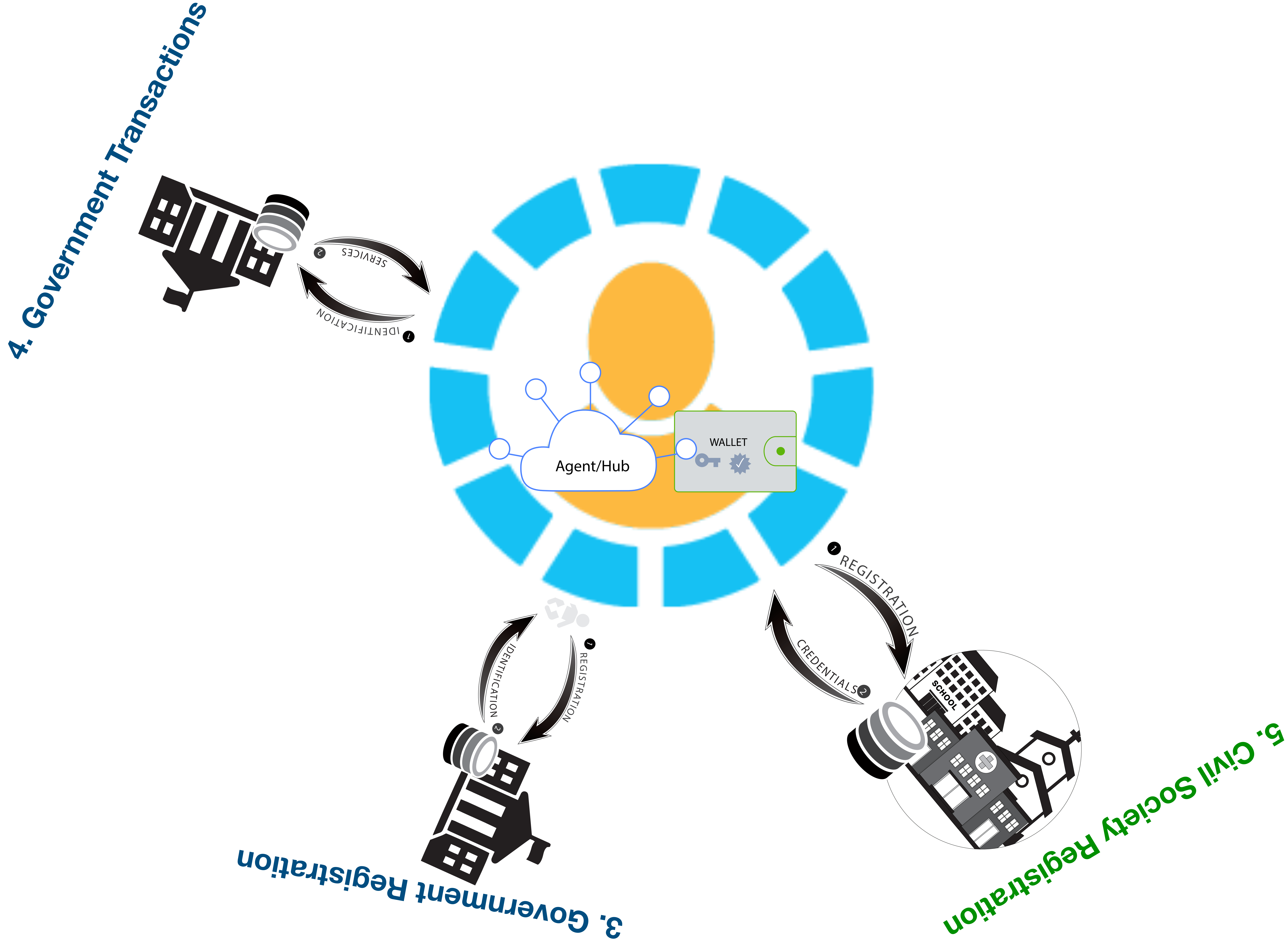

Agent/Hub
WALLET


Agent/Hub
.ET


Agent/Hub
WALLET


Agent/Hub
WALLET
1
REGISTRATION
2
IDENTIFICATION
3. Government Registration

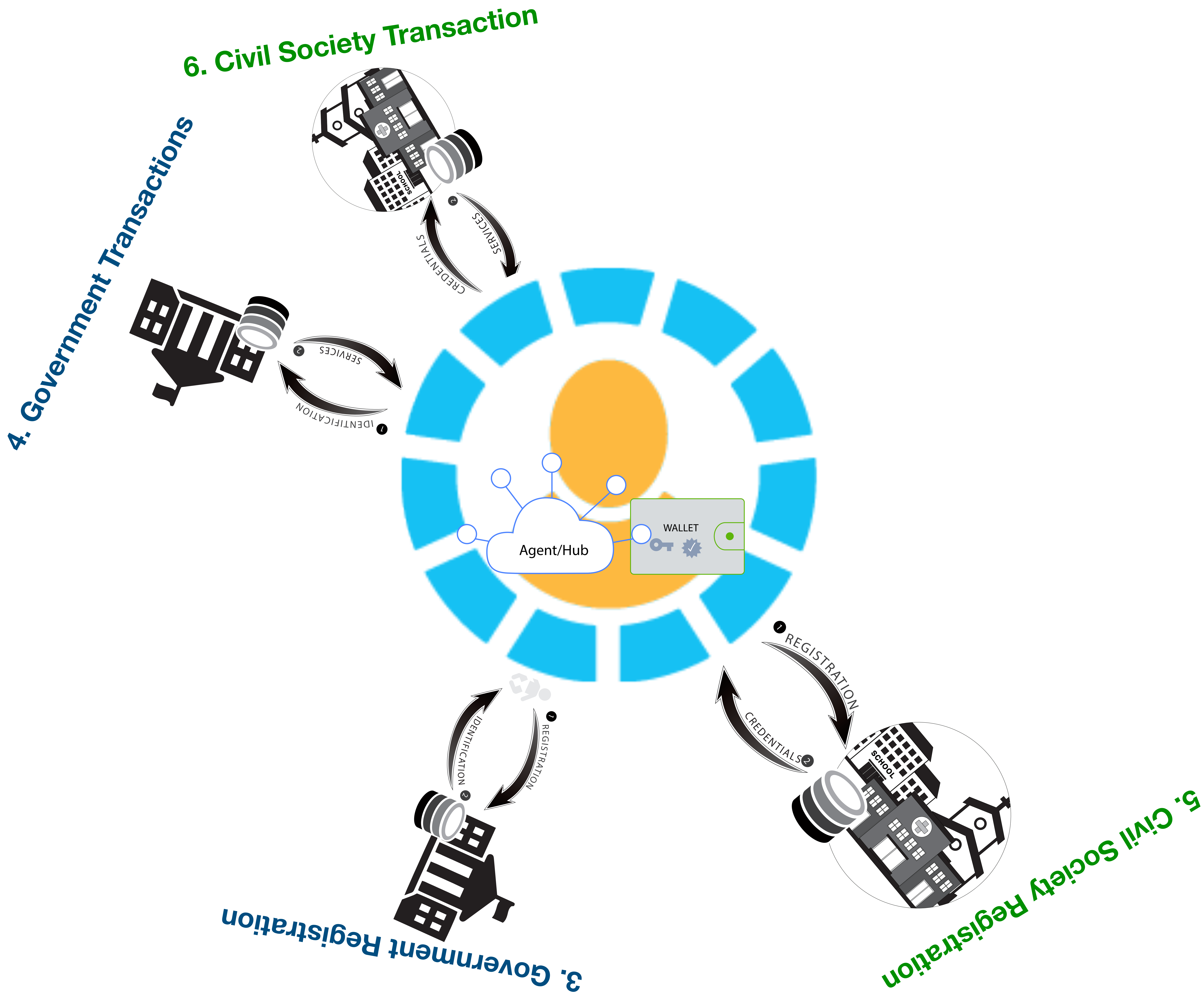

4. Government Transactions
2 SERVICES
1 IDENTIFICATION
Agent/Hub
WALLET
1 REGISTRATION
2 IDENTIFICATION
3. Government Registration



4. Government Transactions

3. Government Registration

5. Civil Society Registration

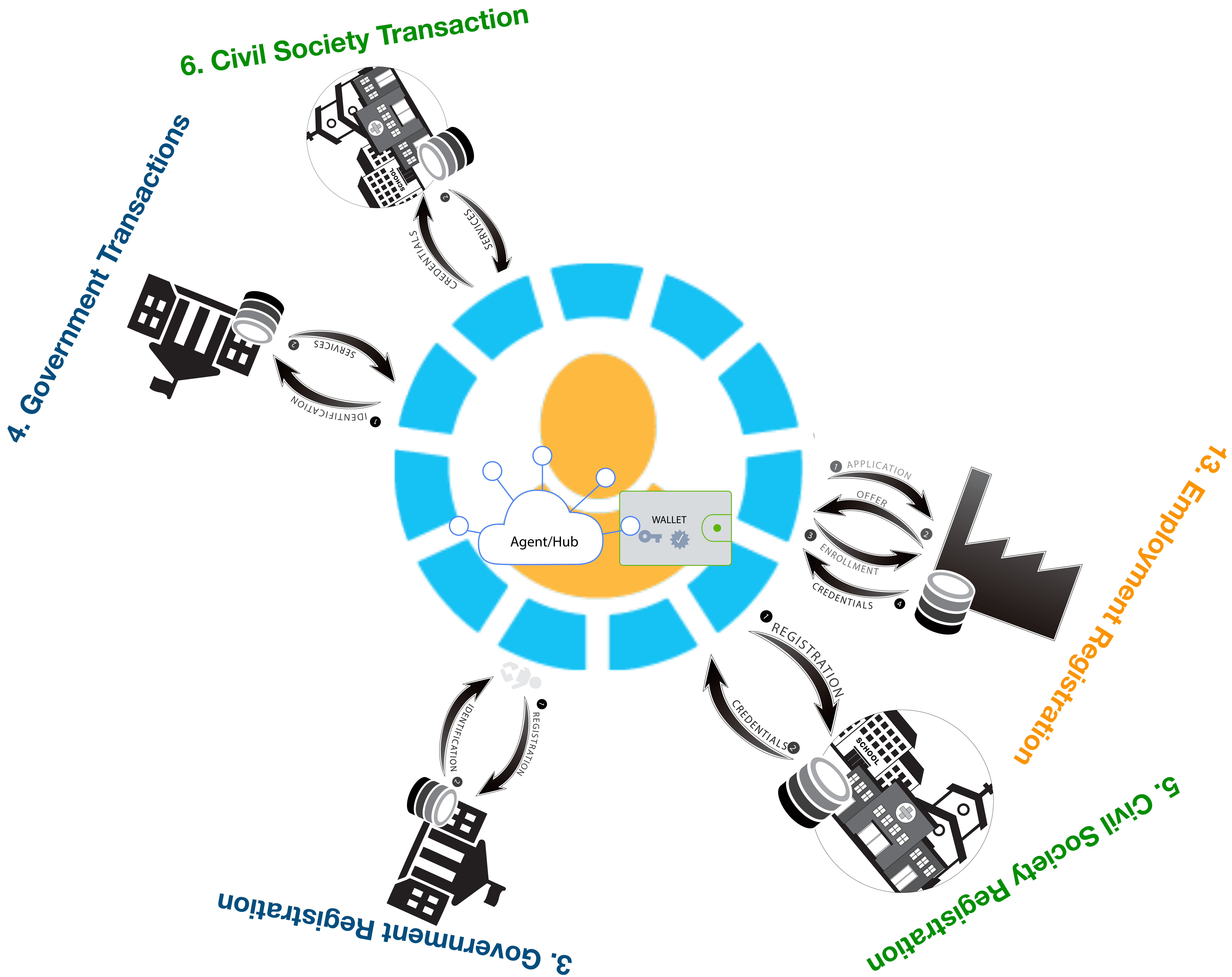


3. Government Registration

4. Government Transactions

5. Civil Society Registration

6. Civil Society Transaction



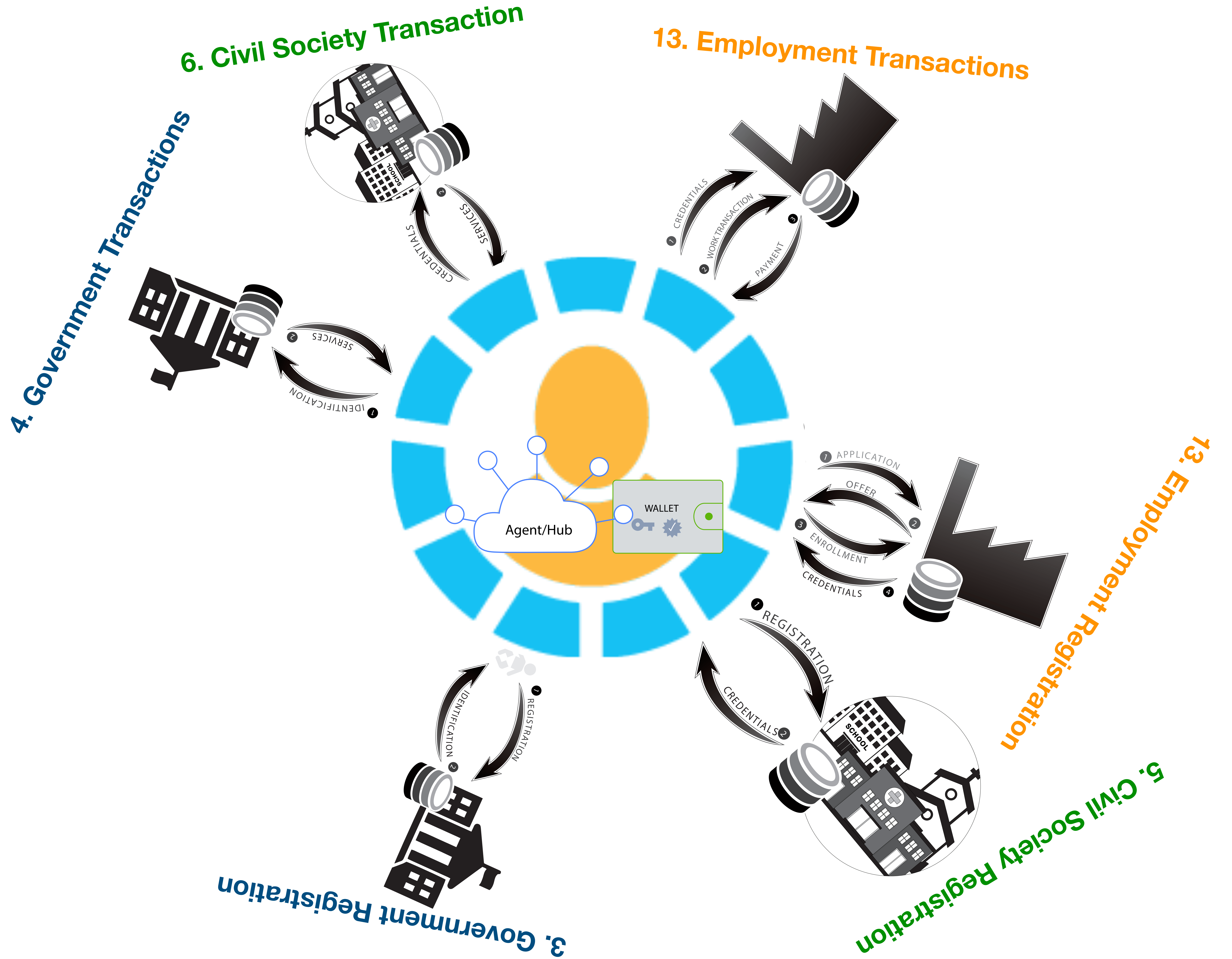
6. Civil Society Transaction

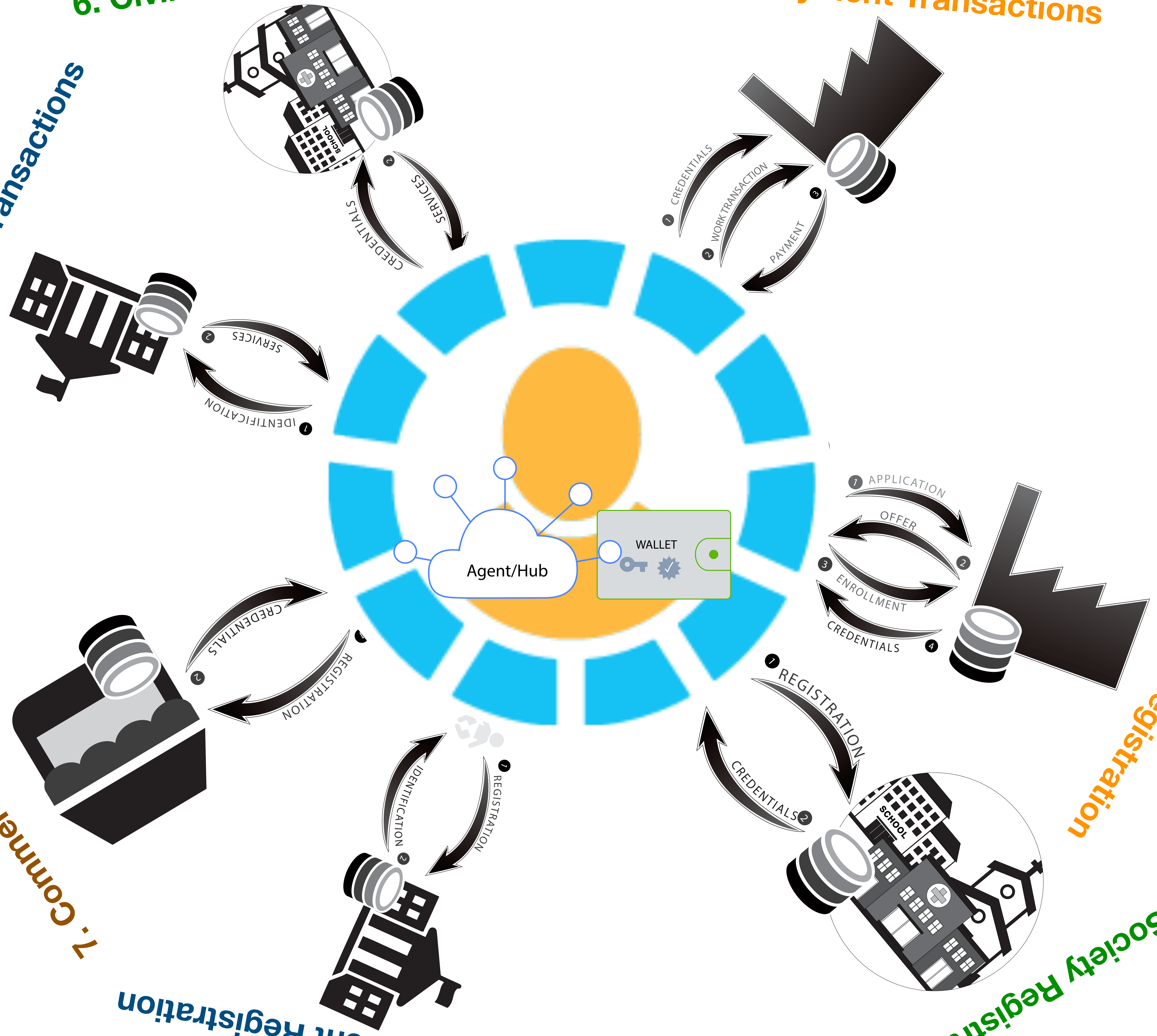
4. Government Transactions

13. Employment Registration

5. Civil Society Registration

3. Government Registration


6. Civil Society Transaction
13. Employment Transactions
4. Government Transactions
13. Employment Registration
5. Civil Society Registration
3. Government Registration
SCHOOL
2 SERVICES
CREDENTIALS
1 CREDENTIALS
2 WORK TRANSACTION
3 PAYMENT
2 SERVICES
1 IDENTIFICATION
Agent/Hub
WALLET
1 APPLICATION
OFFER
2
3 ENROLLMENT
CREDENTIALS 4
1 REGISTRATION
CREDENTIALS 2
SCHOOL
1 REGISTRATION
IDENTIFICATION 2



6. Civil Society Transaction

13. Employment Transactions

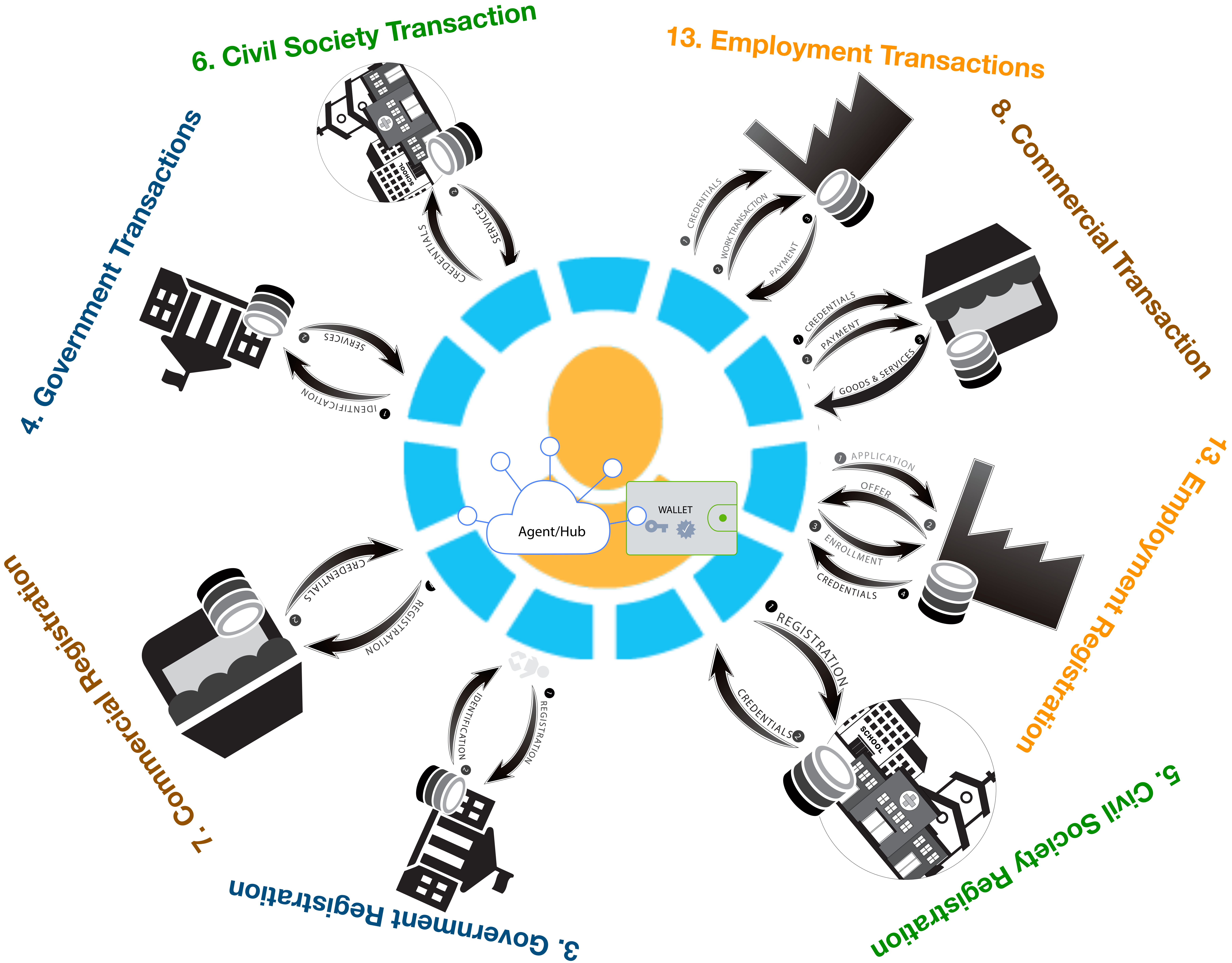
4. Government Transactions

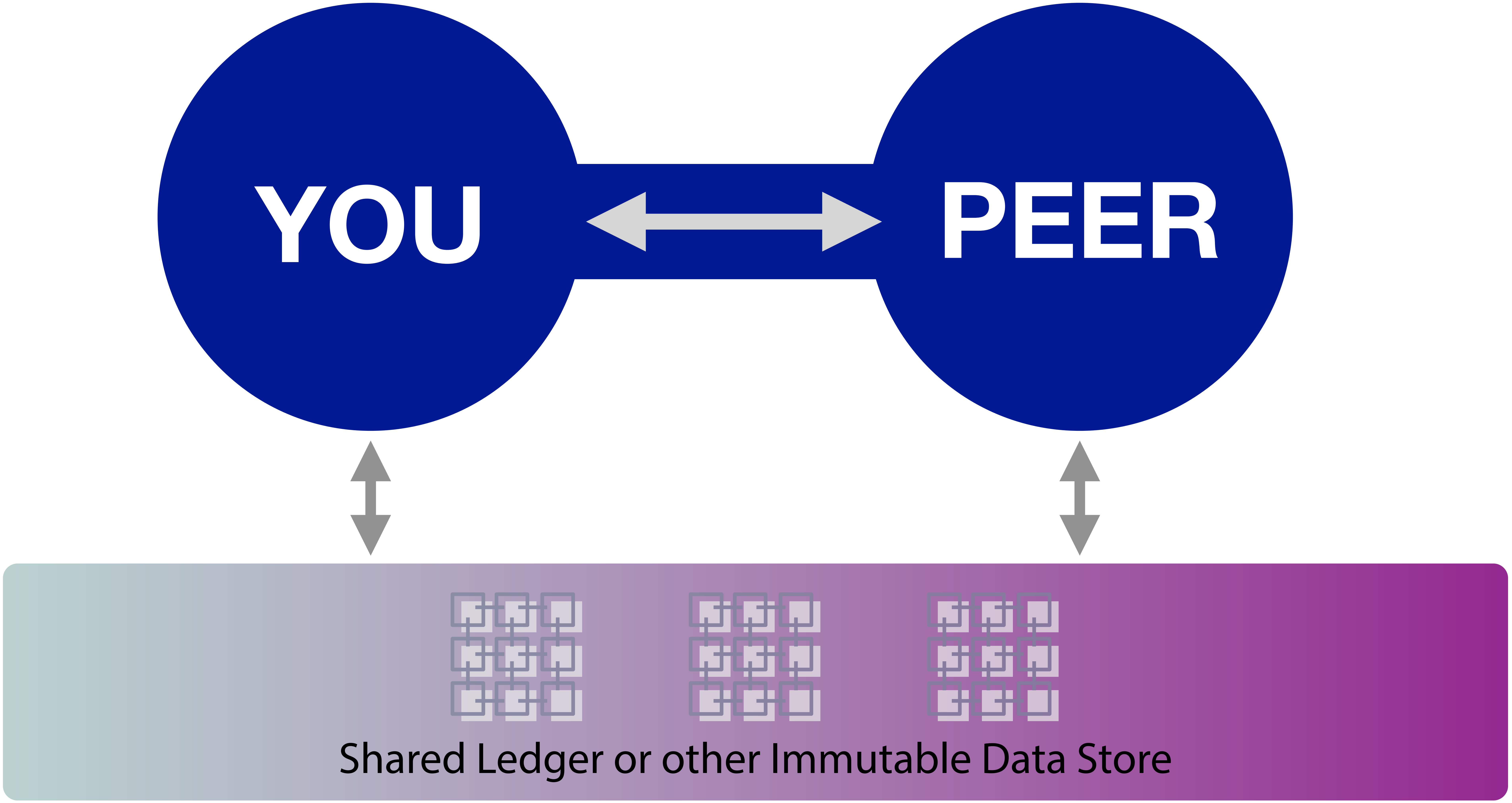
13. Employment Registration

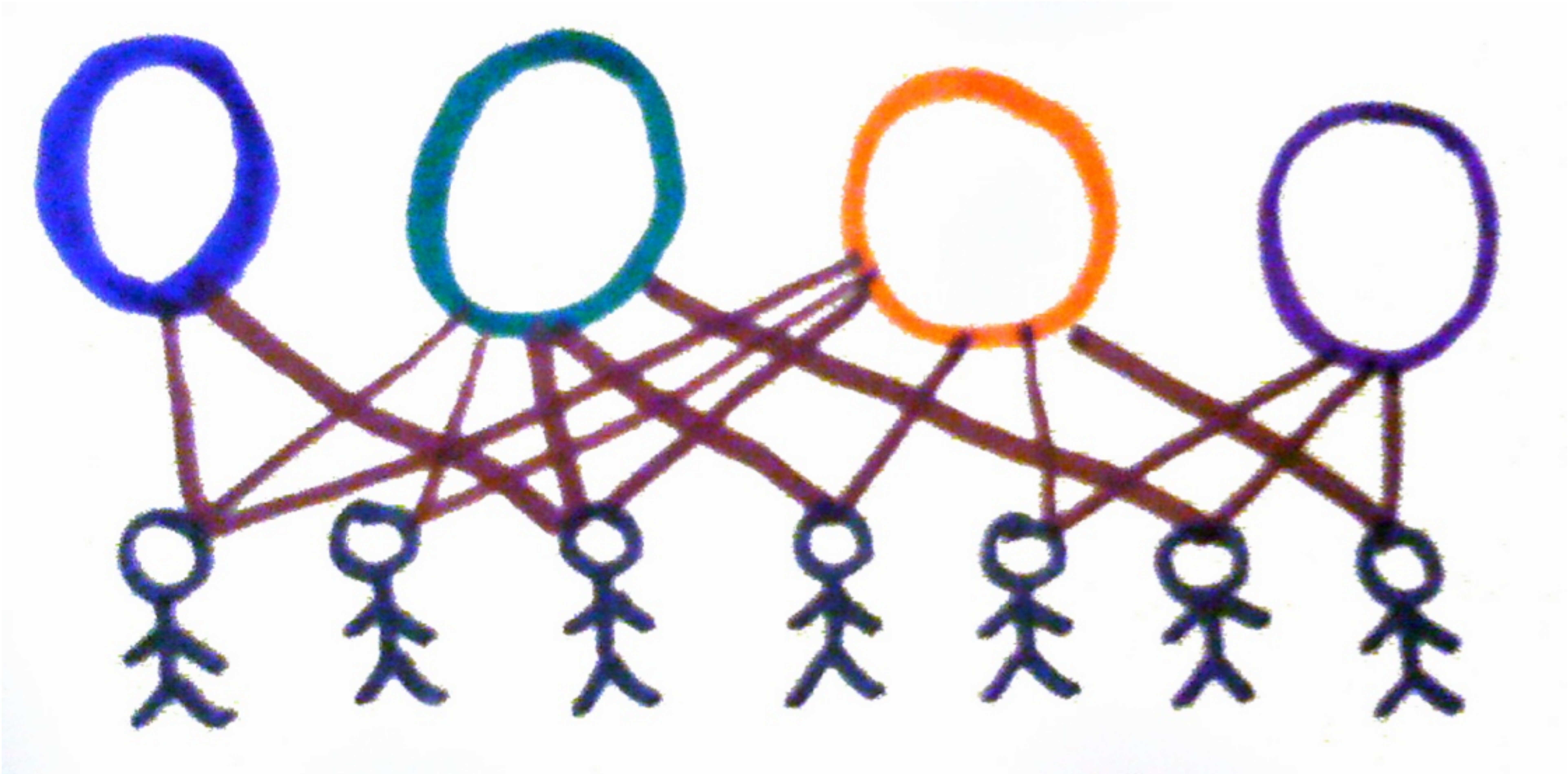
7. Commercial Registration

3. Government Registration

5. Civil Society Registration

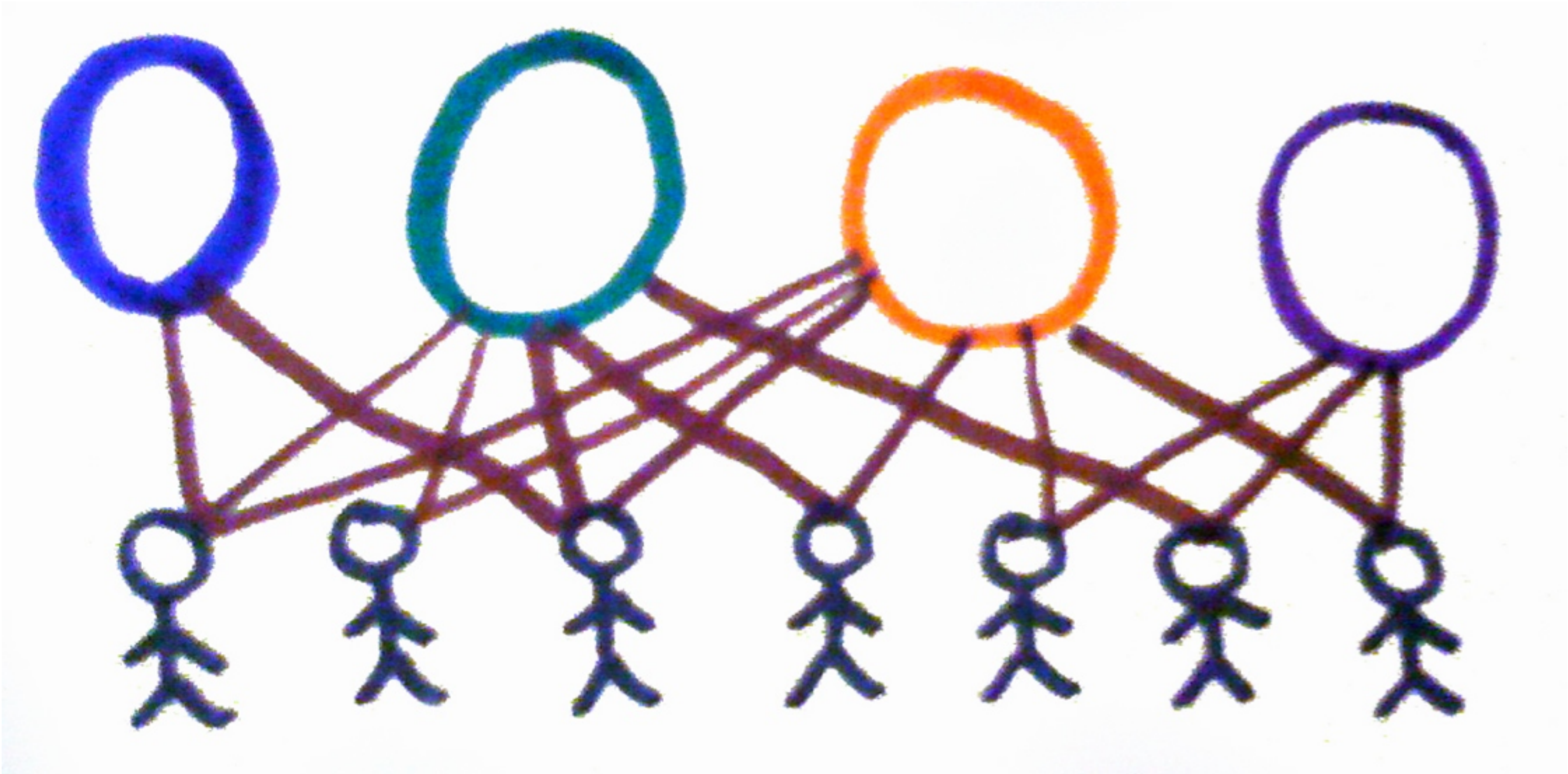

6. Civil Society Transaction
13. Employment Transactions
8. Commercial Transaction
4. Government Transactions
13. Employment Registration
5. Civil Society Registration
3. Government Registration
7. Commercial Registration
Agent/Hub
WALLET
SCHOOL
1 CREDENTIALS
2 SERVICES
2 SERVICES
1 IDENTIFICATION
1 CREDENTIALS
2 WORK TRANSACTION
3 PAYMENT
1 CREDENTIALS
2 PAYMENT
3 GOODS & SERVICES
1 APPLICATION
2 OFFER
3 ENROLLMENT
4 CREDENTIALS
1 REGISTRATION
2 CREDENTIALS
1 REGISTRATION
2 IDENTIFICATION
1 REGISTRATION
2 CREDENTIALS


YOU
PEER
Shared Ledger or other Immutable Data Store



Individuals have their own Identities

What about the organizations?



VON

British Columbia

Verifiable Organizations Network

MARY'S Bakery

Let's look at an example

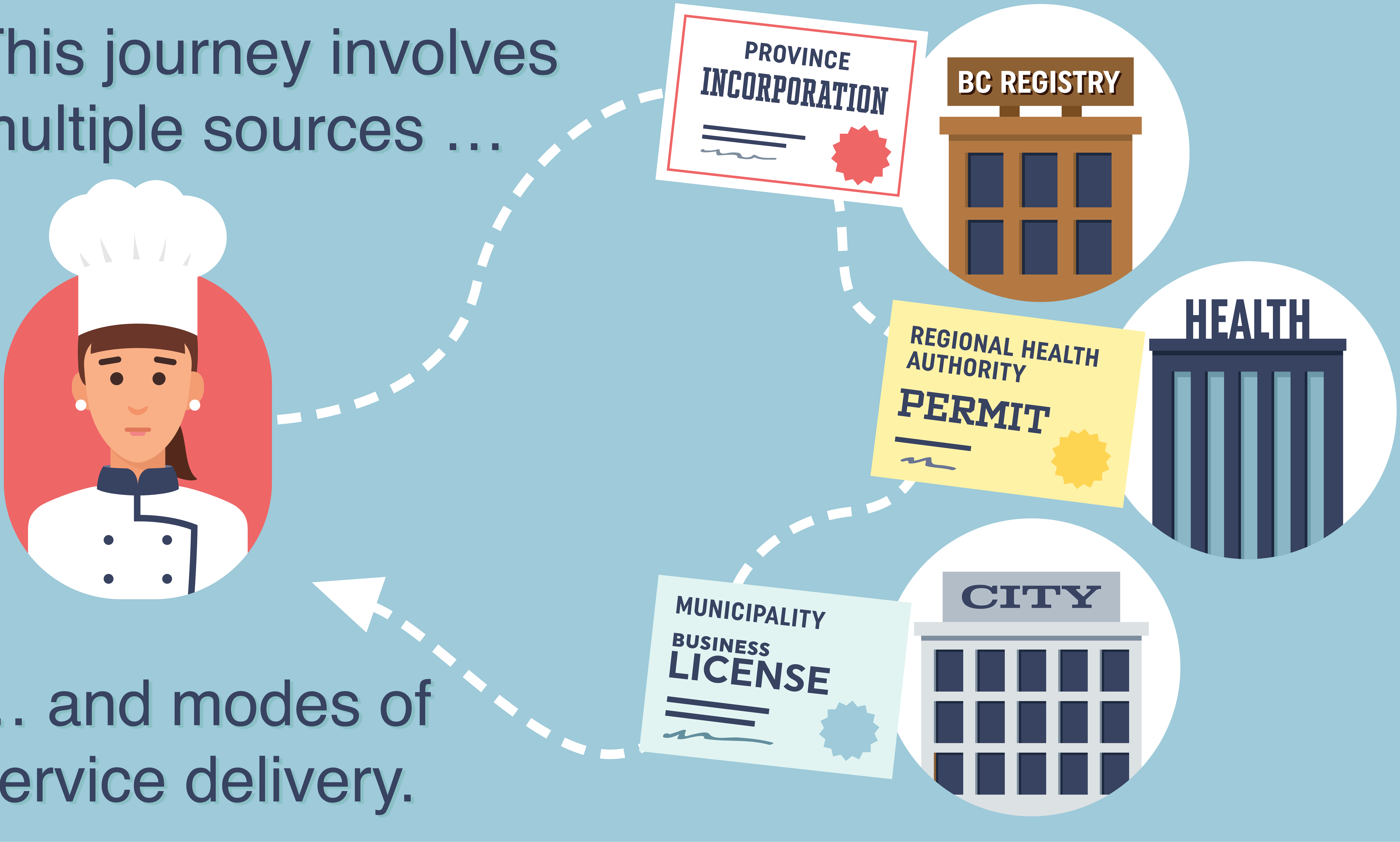
Paper documents are cumbersome as proof of legal compliance and permission.

Mary requires a variety of documents in order to establish her bakery.

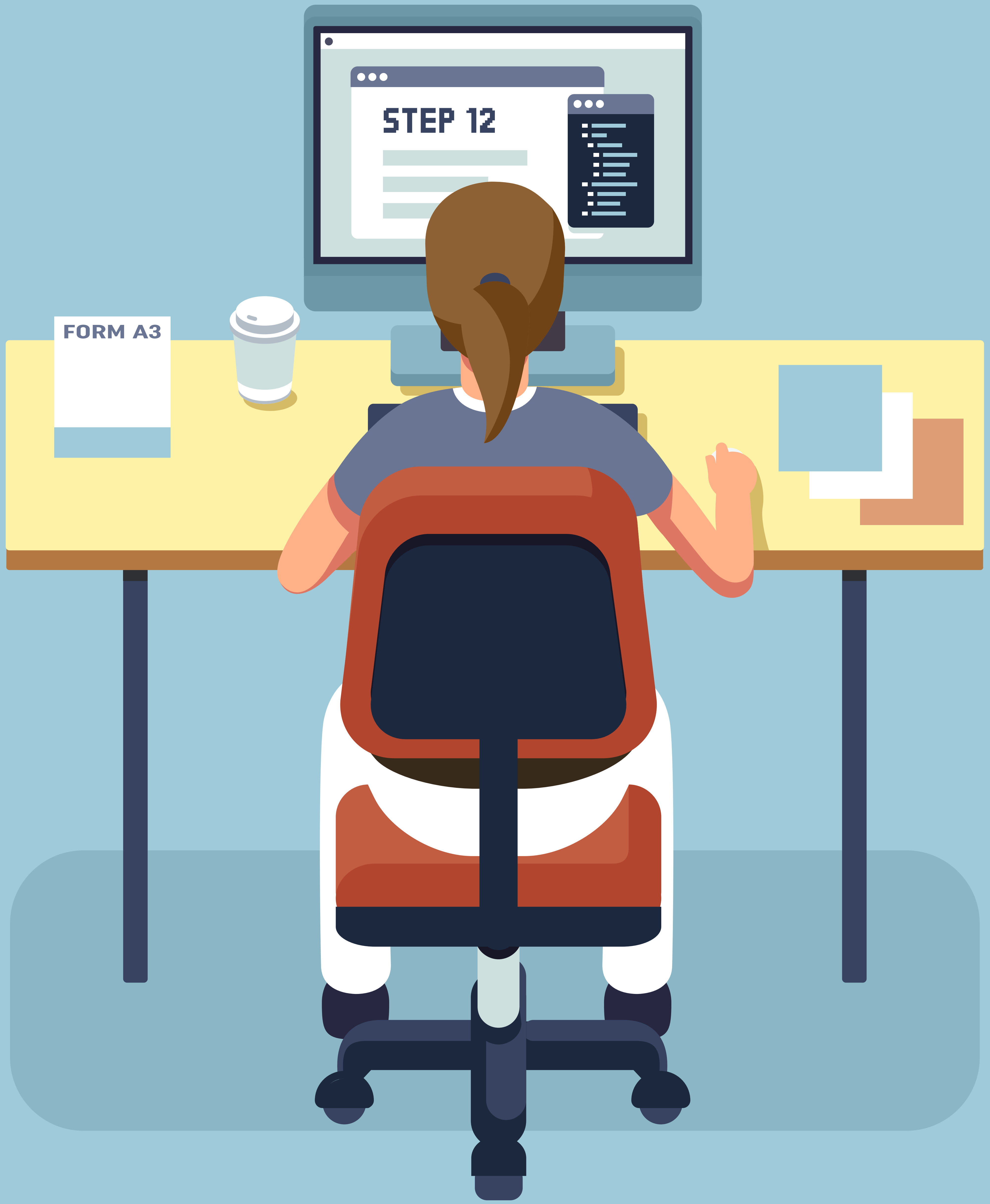
PROVINCE
INCORPORATION
REGIONAL HEALTH AUTHORITY
PERMIT
MUNICIPALITY
BUSINESS LICENSE

Some requirements are not obvious, so she’ll have to do her homework.

This journey involves multiple sources …

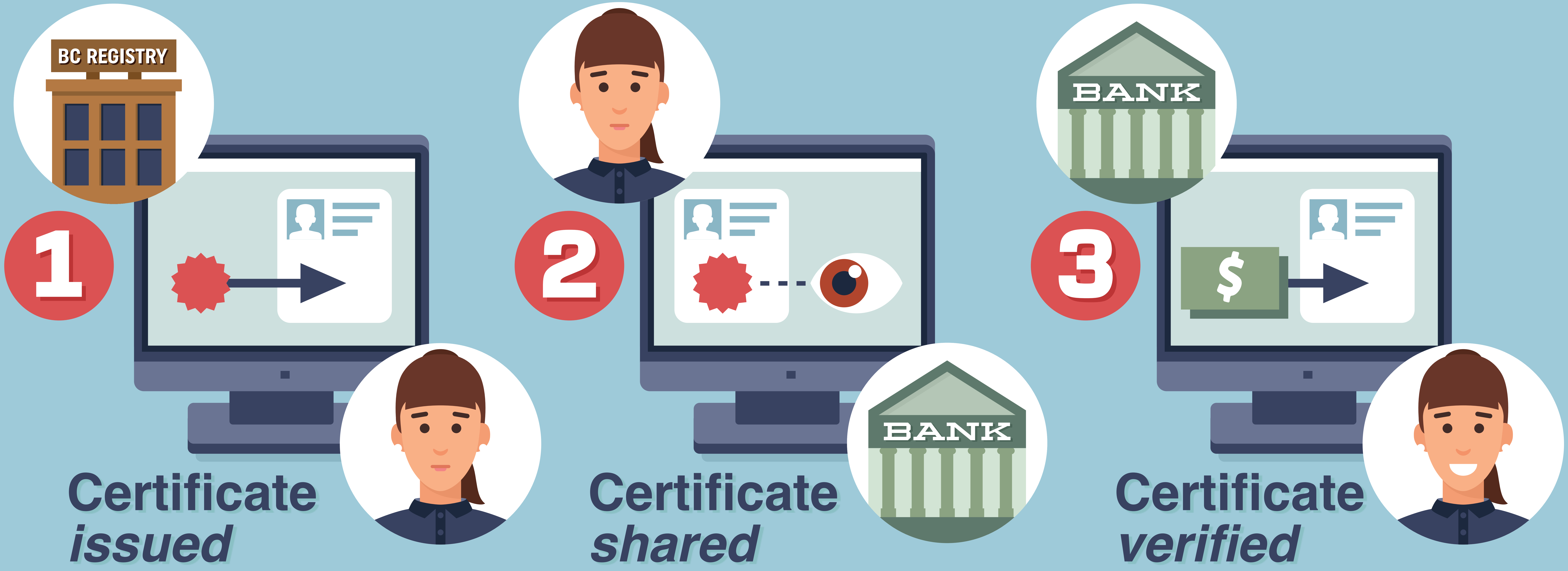


… and modes of service delivery.



All of this activity is a major burden for all involved.

What if … businesses could provide verifiable proofs about qualifications when transacting online?



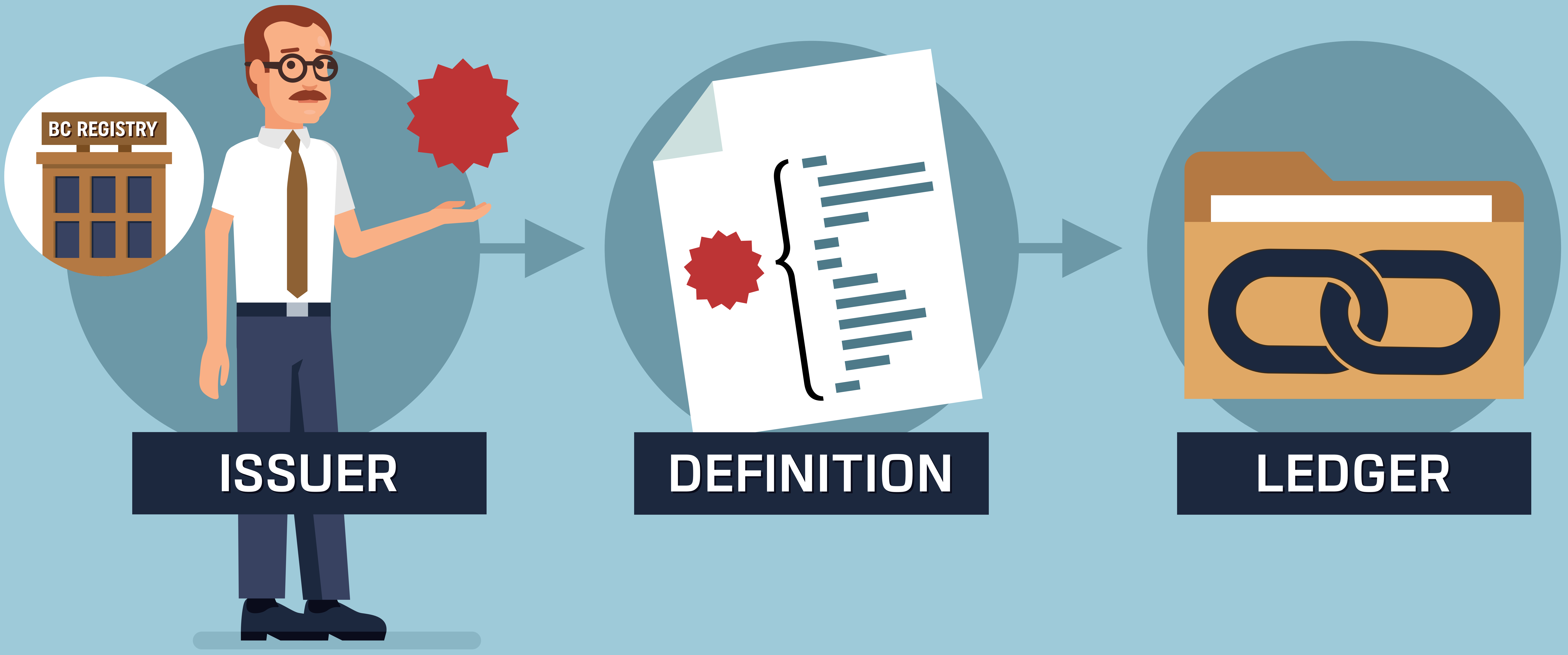
Certificate *issued*

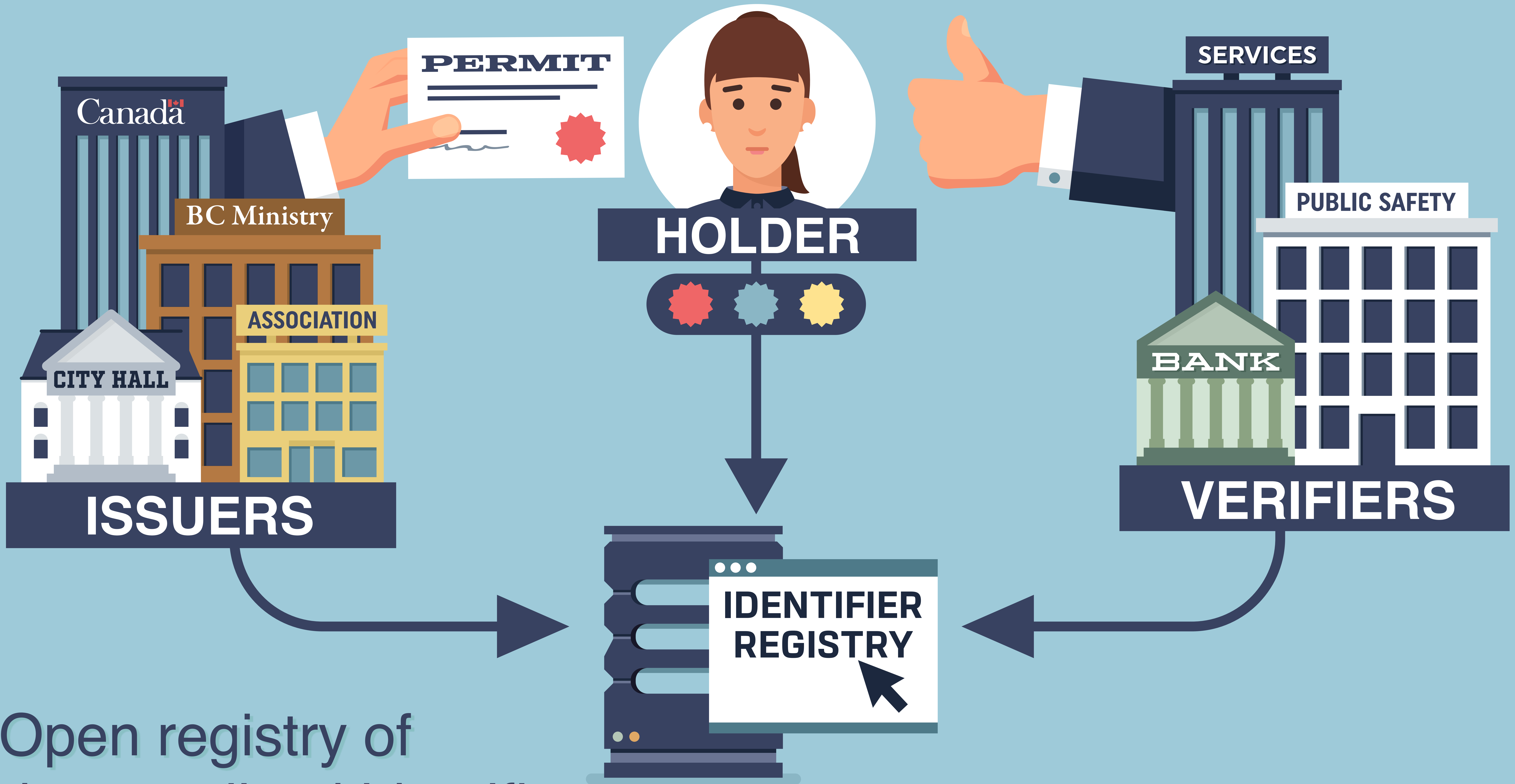
Certificate *shared*

Certificate *verified*

Mary ***owns*** this proof-of status for her business

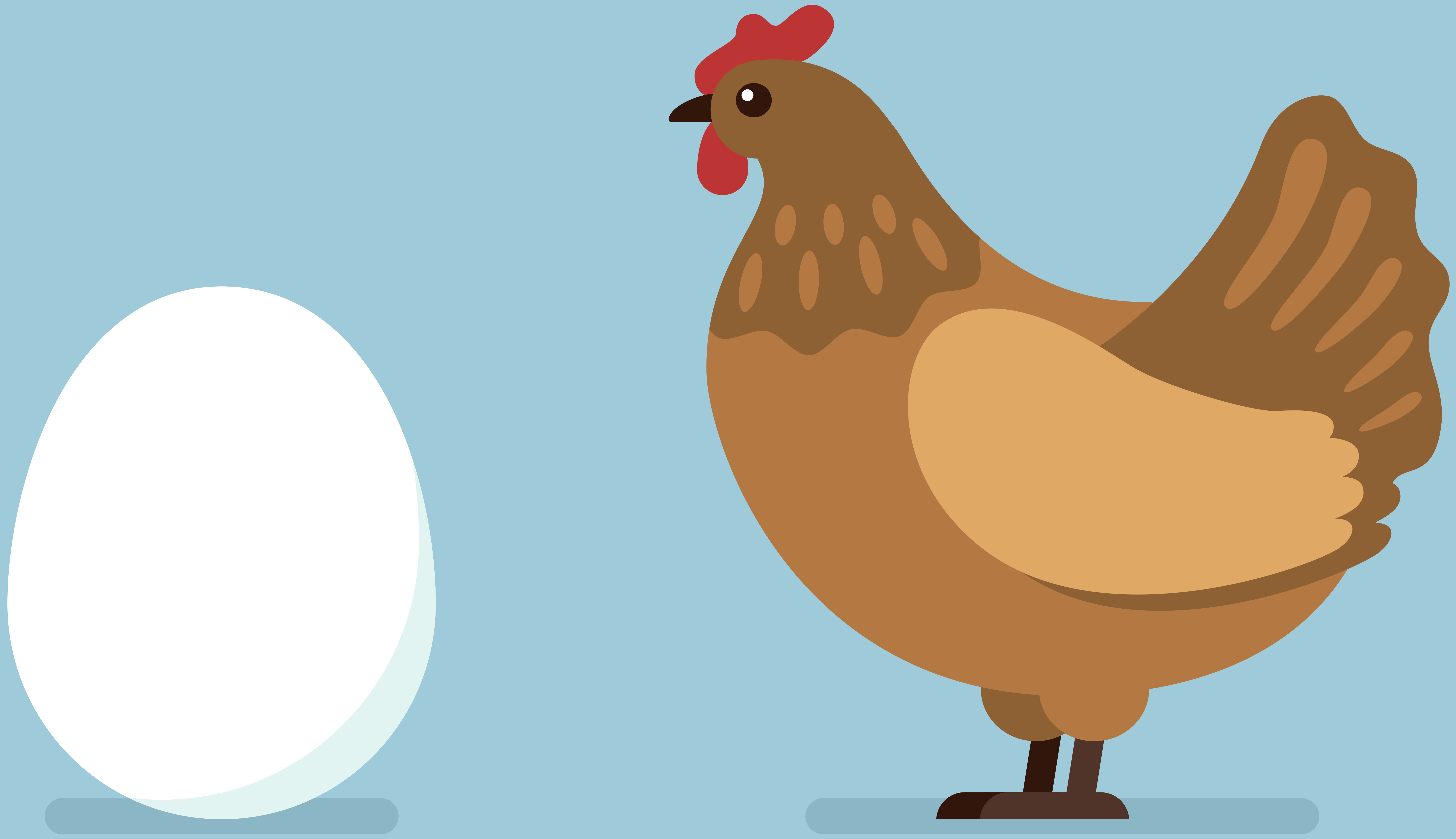
The credential definition is ***created*** and published on the blockchain (ledger) by an issuer.





Open registry of decentralized identifiers.

We have a ***chicken-or-egg dilemma***.



How do we kickstart one side of the market?

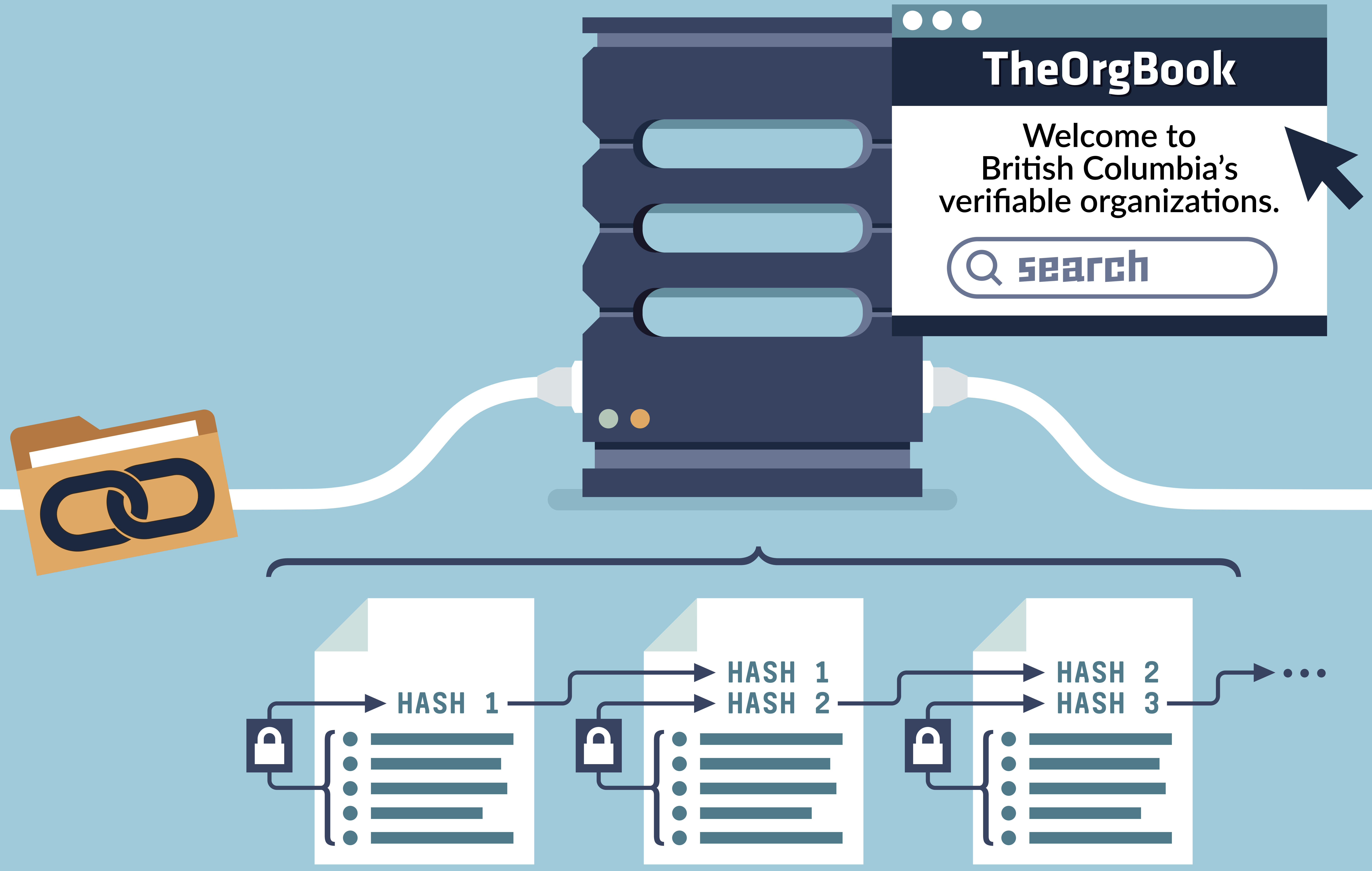
What can services plug into to get things rolling?

TheOrgBook fills that role and ***unlocks*** the hidden value of BC Registries data.

Welcome to British Columbia's verifiable organizations.

Registration, permit, and license services can plug into incorporated businesses.

Digitally signed and sealed *verifiable credentials*



TheOrgBook

Welcome to British Columbia's verifiable organizations.

A global, open blockchain registry

The new enrollment experience is more convenient …

TheOrgBook
MARY OLIVIERA
BC REGISTRY
HEALTH
CITY

… with a global, open blockchain registry.

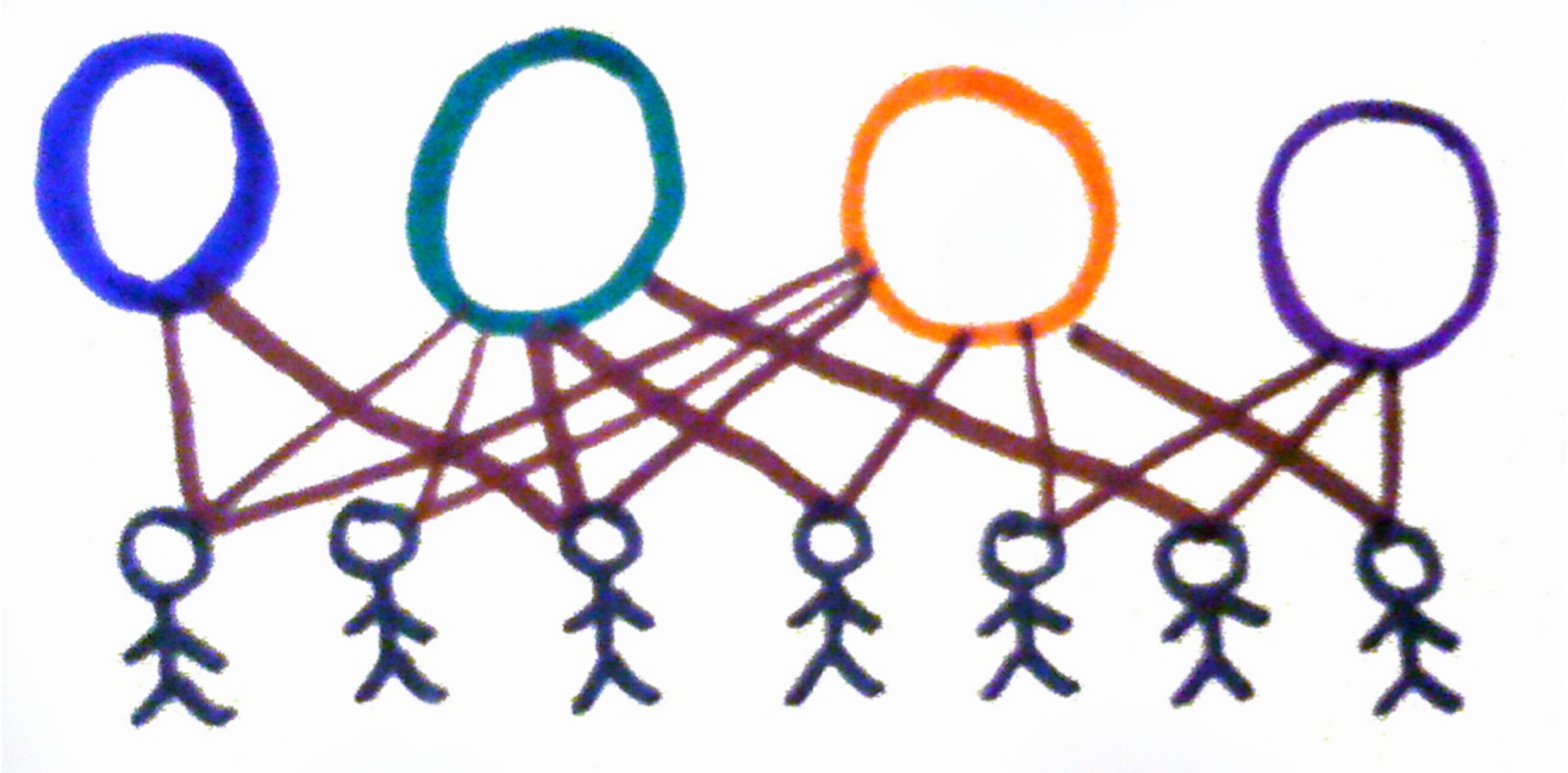
Mary can own her proof-of-status and store them in her ***digital wallet*** …

… which opens up more service possibilities …

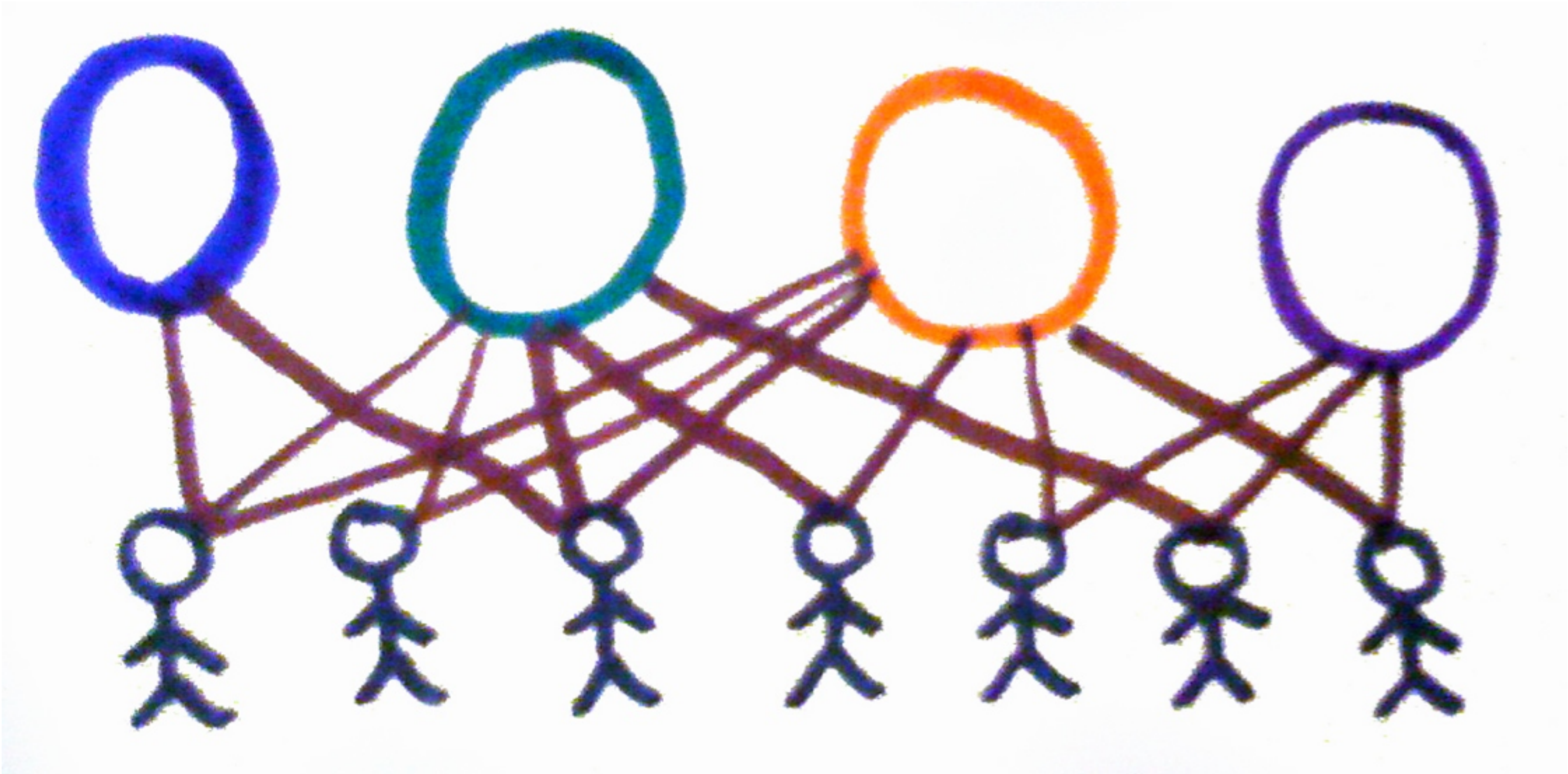
A ***decentralized verifiable credential*** is carried by the holder on a smart phone or other computing device.

The phone does a lot of the work as the holder’s ***agent***.

Organizations *now* have identities



Organizations *now* have identities



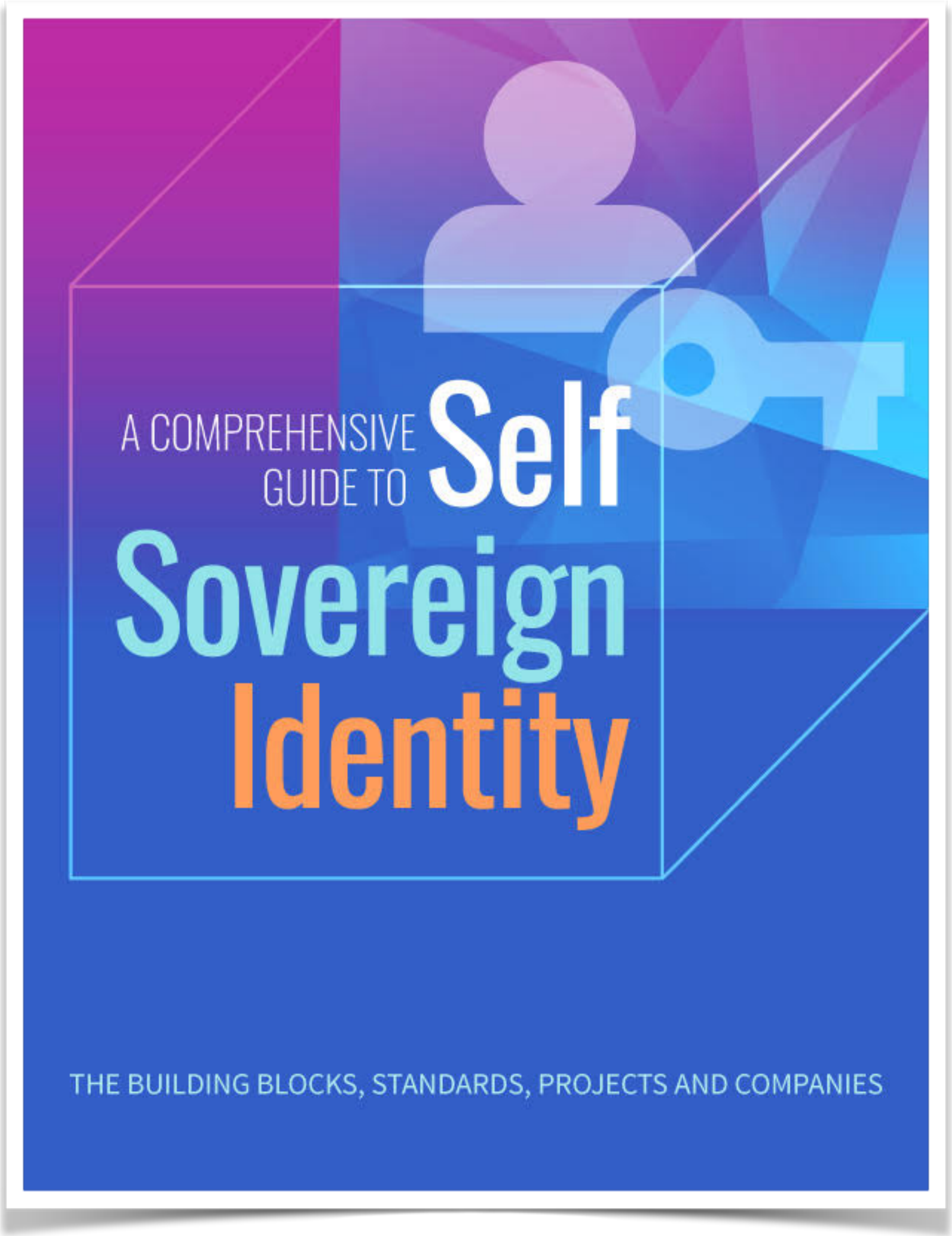
People *now* have identities

Organizations *now* have identities

OPEN STANDARDS FOR IDENTIFIERS & DATA EXCHANGE

People *now* have identities

L8	User/Individual	DID, Verifiable Credentials, DID Auth 👤
L7	Application	Social Networking, Music, Office Application
L6	Presentation	ASCIII, EBCDIC, ICA
L5	Session	L2TP, PPTP
L4	Transport	TCP, UDP
L3	Network	192, 168.1.1
L2	Data Link	00-17-BB-BC-E3-E7
L1	Physical	⚡



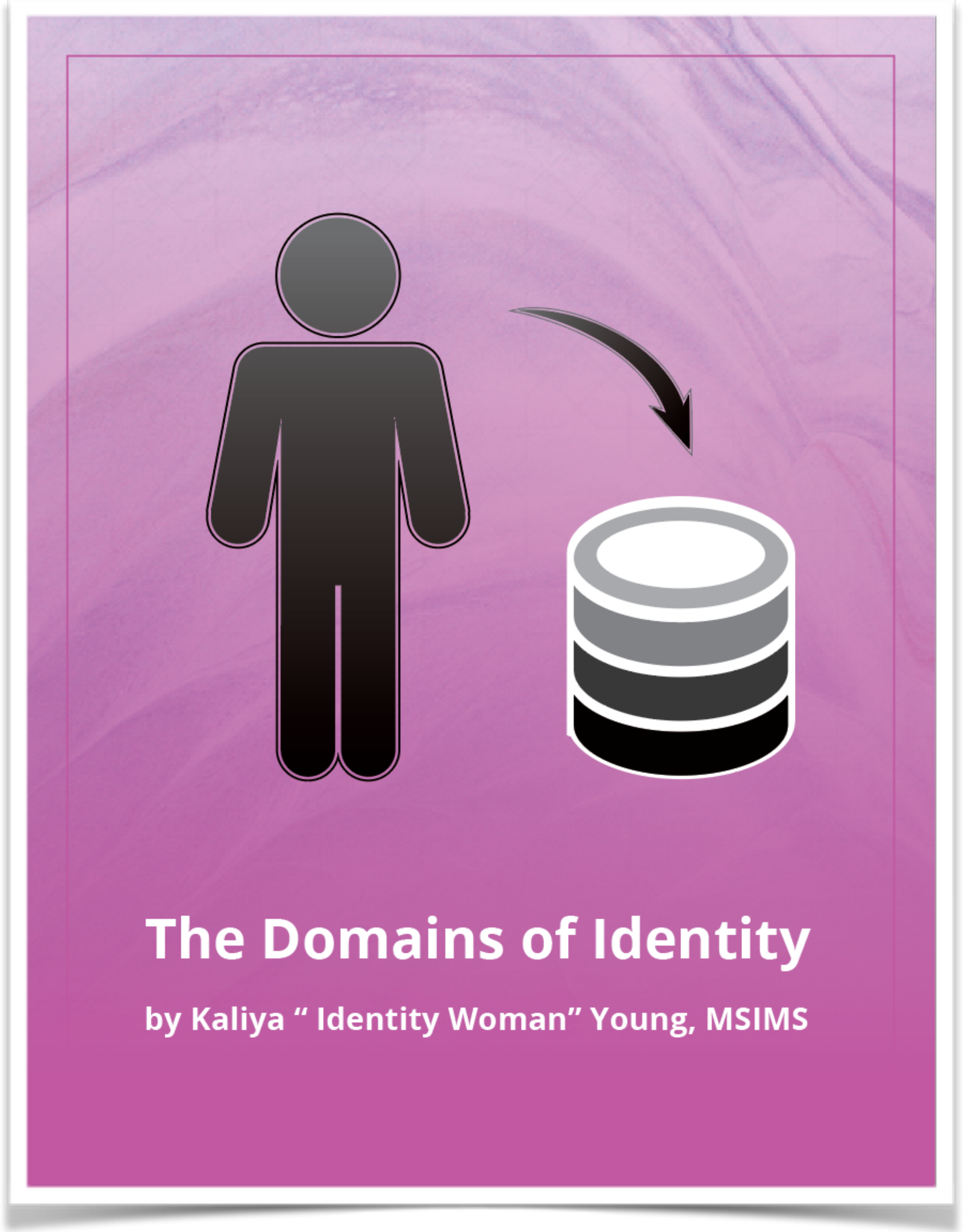
A COMPREHENSIVE GUIDE TO Self Sovereign Identity

THE BUILDING BLOCKS, STANDARDS, PROJECTS AND COMPANIES

ssiscoop.com

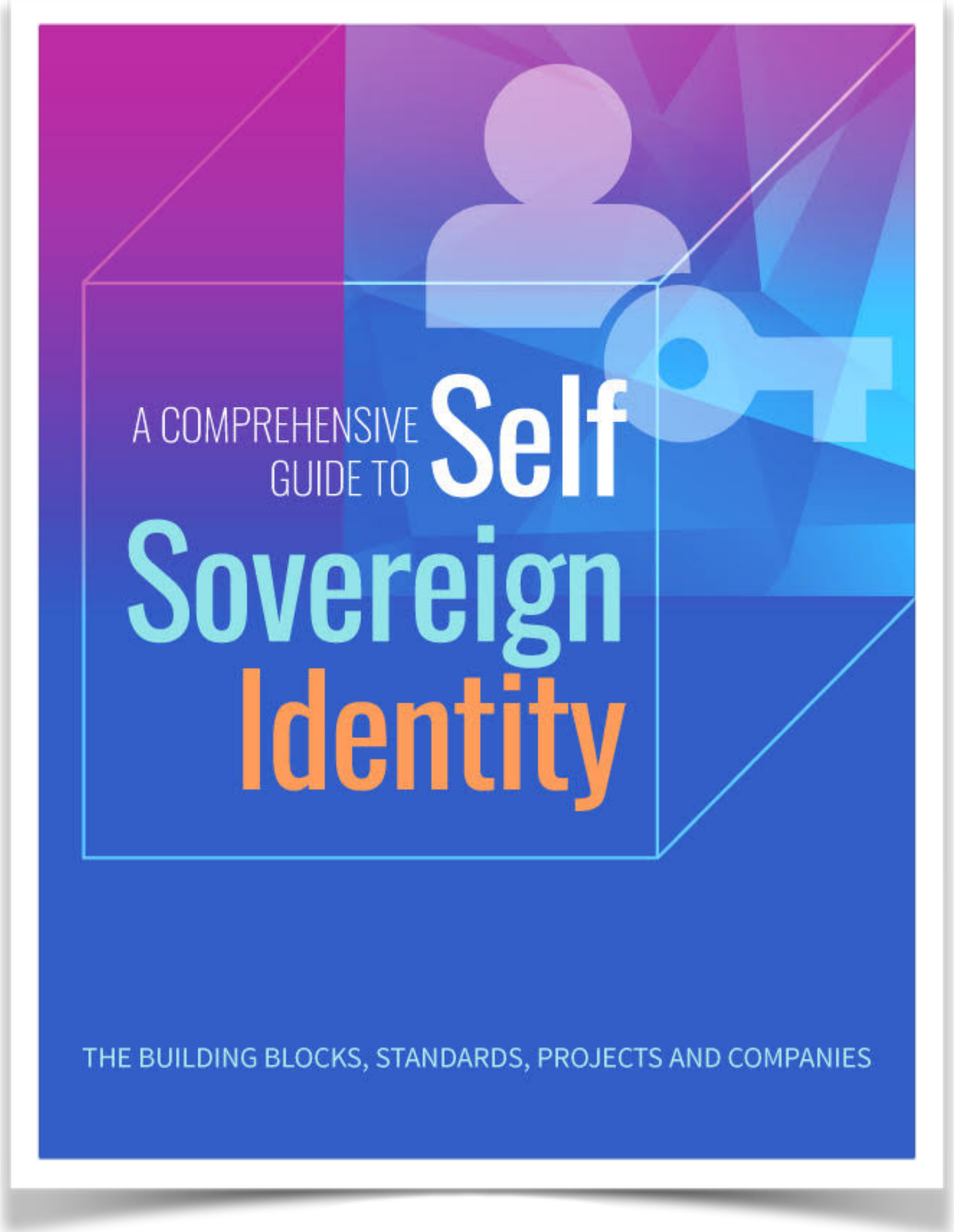
Kaliya Young

kaliya@identitywoman.net



The Domains of Identity

by Kaliya “ Identity Woman” Young, MSIMS



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