

A close-up photograph of a person's hand, palm up, holding a glowing, complex network of white and blue lines and nodes. The network appears to be a digital or data structure, with some nodes being bright blue and others white. The background is dark, making the glowing network stand out. The person's hand is in the foreground, and the network is positioned above it, as if being held or presented.

Decentralized Identity for a Decentralized World

Nasos Kladakis
Principal PM Manager
Microsoft Identity product group

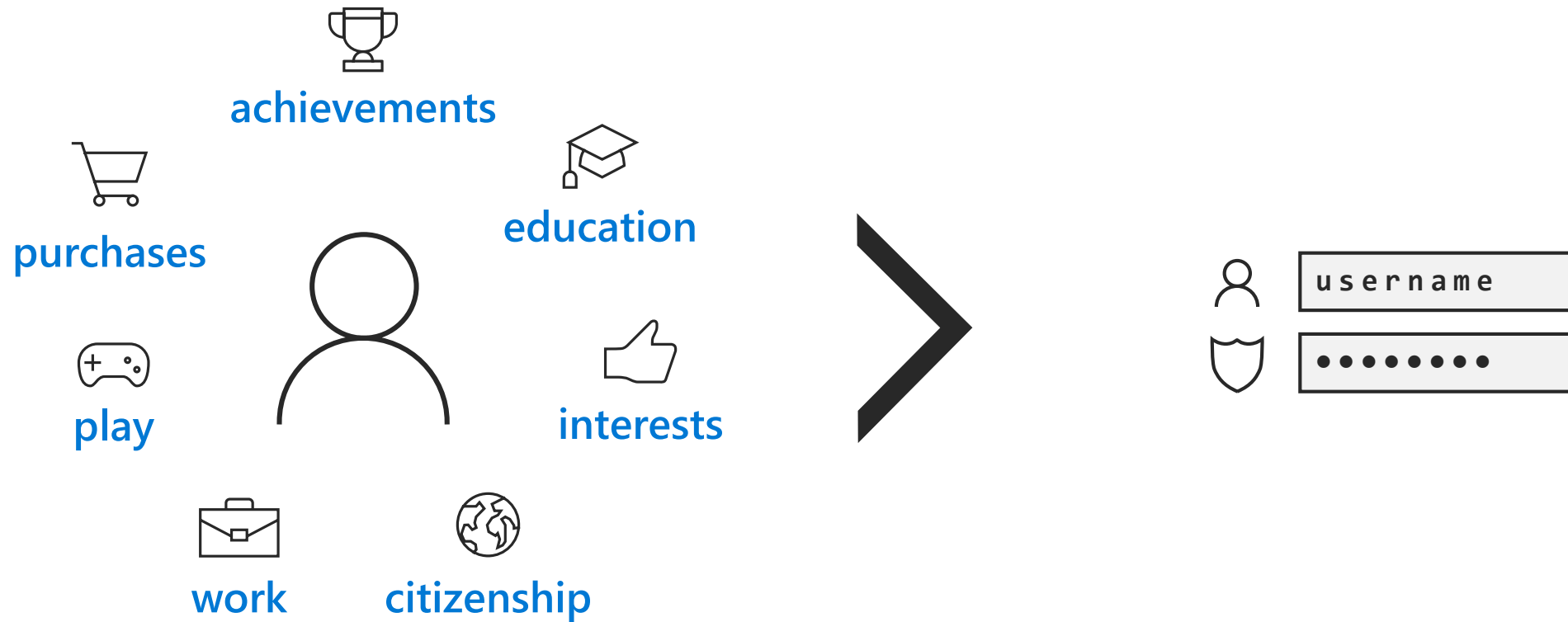
Today

Your Identity == App(username, password)

However

Your Identity > App(username, password)

Identity is everything you do



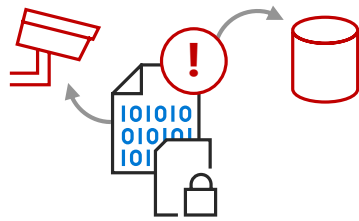
Your Identity > App(username, password)

But our identities are strewn across apps and services

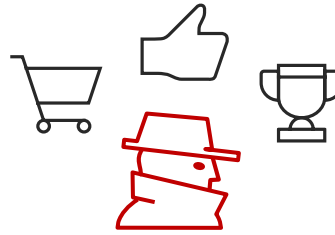


Your Identity > App(username, password)

As a result, our identities are at risk



Unauthorized use
or personal data



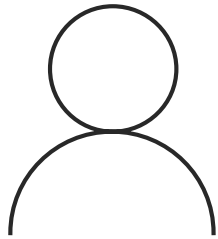
Endless breaches
of personal data



Billions spent
on audits

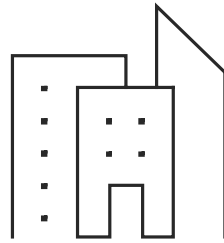
Your Identity  App(username, password)

Customer needs and asks



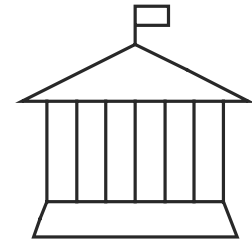
Individuals

- Privacy and control of my identity and data
- Protection from hacks
- Protection from breaches



Organizations

- Trust, but Verify
- Collaborate with everyone
- Reduce risk for GDPR, KYC/AML



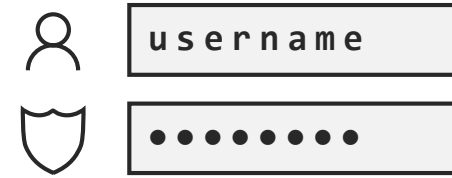
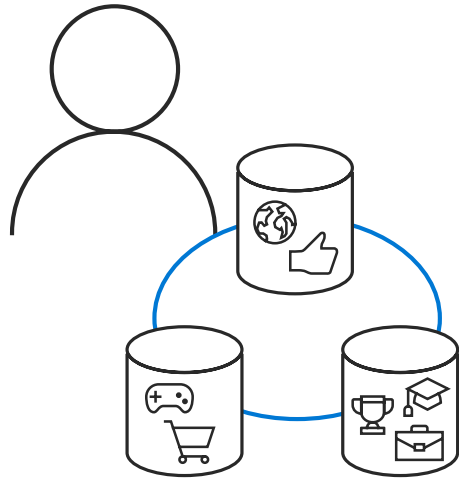
Governments

- ID for cross border & agency
- Digital ID for refugees
- Social and financial inclusion for everyone

User in control



User in control



username

•••••

Incubation Hypothesis for Decentralized ID



Each of us needs a **digital identity we own**, one which securely and privately stores **all elements of our digital identity**.

This self-owned identity must **seamlessly integrate into our lives** and give us **complete control over how our identity data is accessed** and used.



Demo

Own and control your Identity

BYU



B L O C K S T A C K

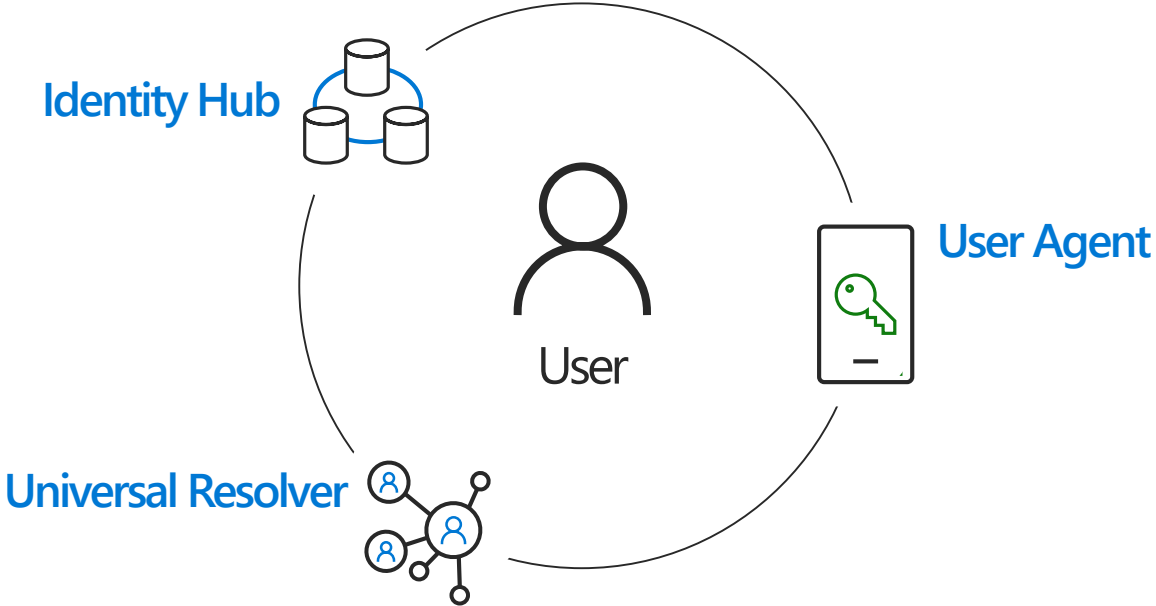


sovrin



Microsoft

The User Agent generates keys



Bitcoin *via Blockstack*

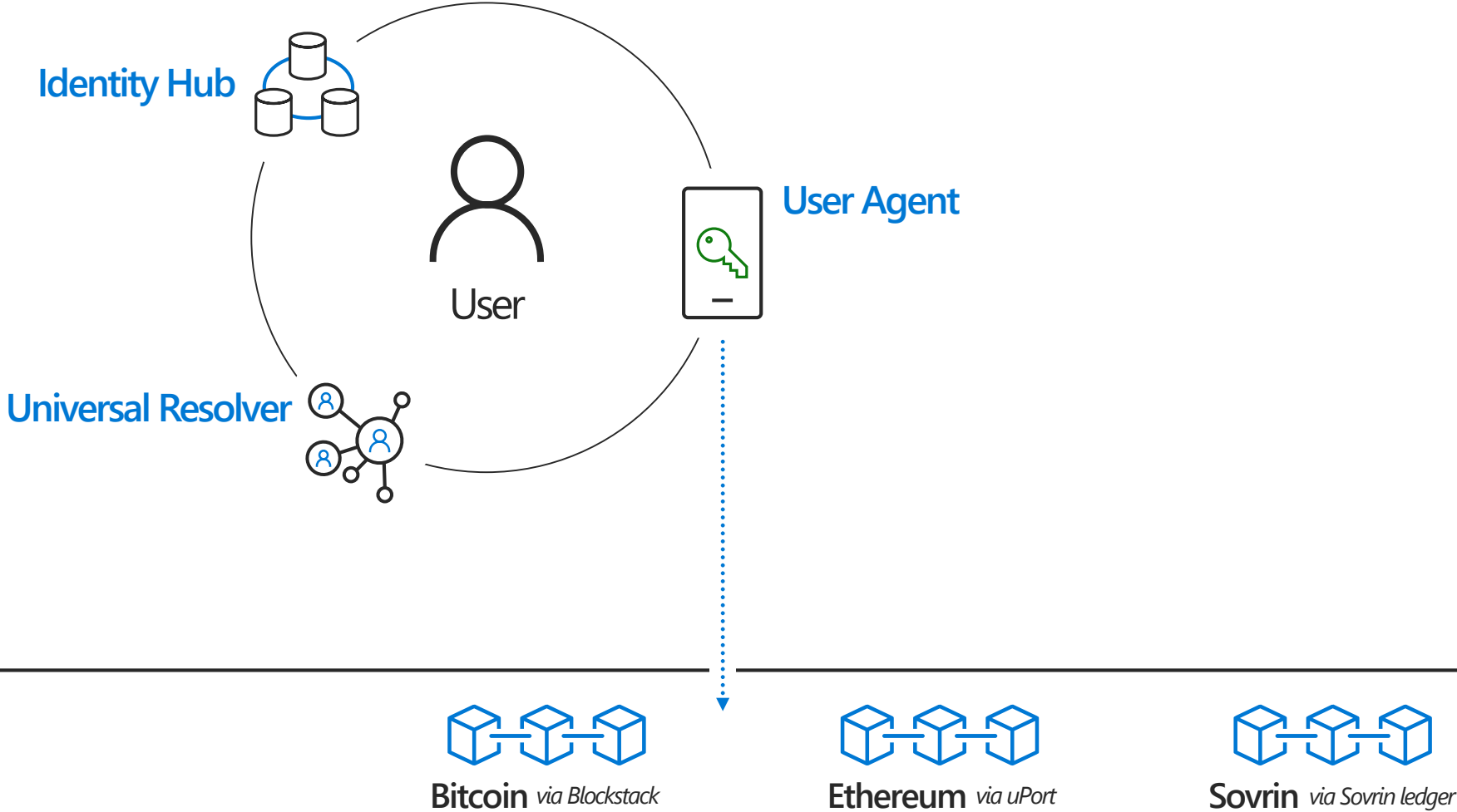


Ethereum *via uPort*

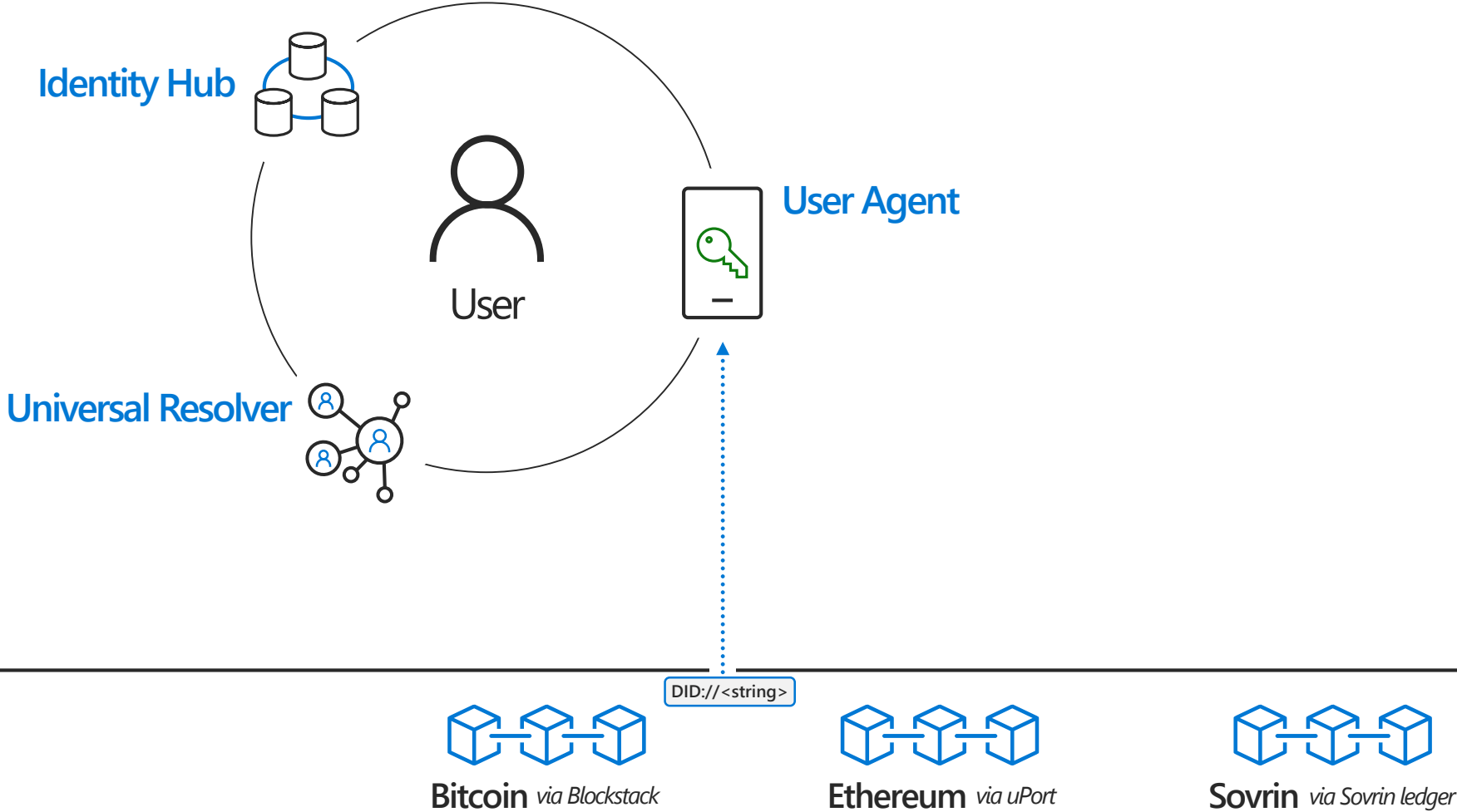


Sovrin *via Sovrin ledger*

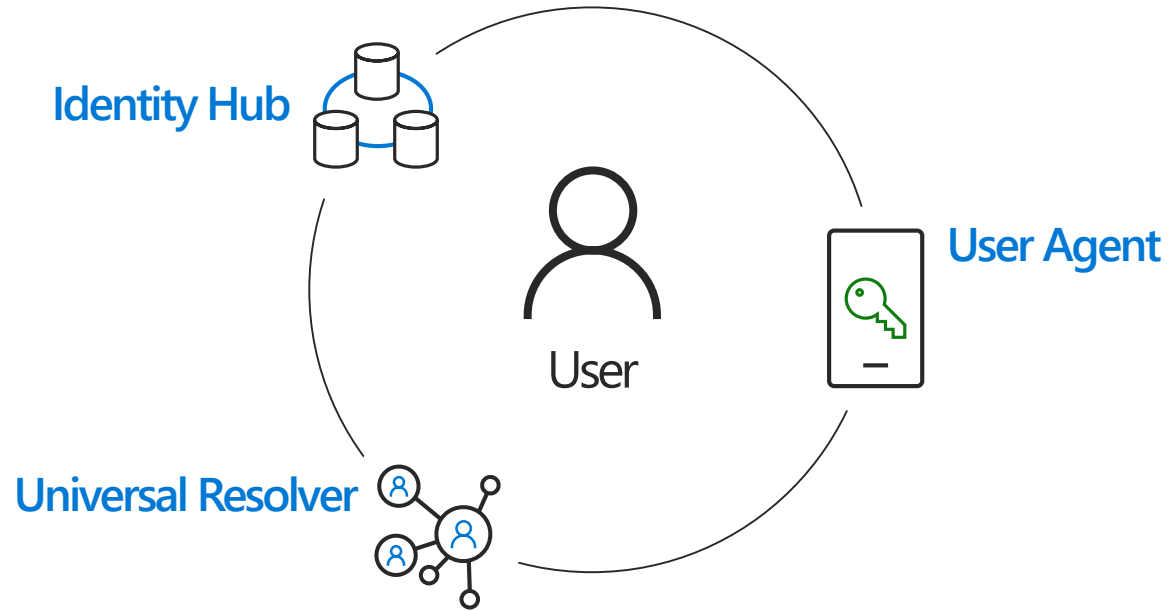
Alice creates a Digital ID on the blockchain



The Blockchain returns Alice's Decentralized ID (DID) identifier



...and stores them in Alice's Identity Hub



Bitcoin *via Blockstack*

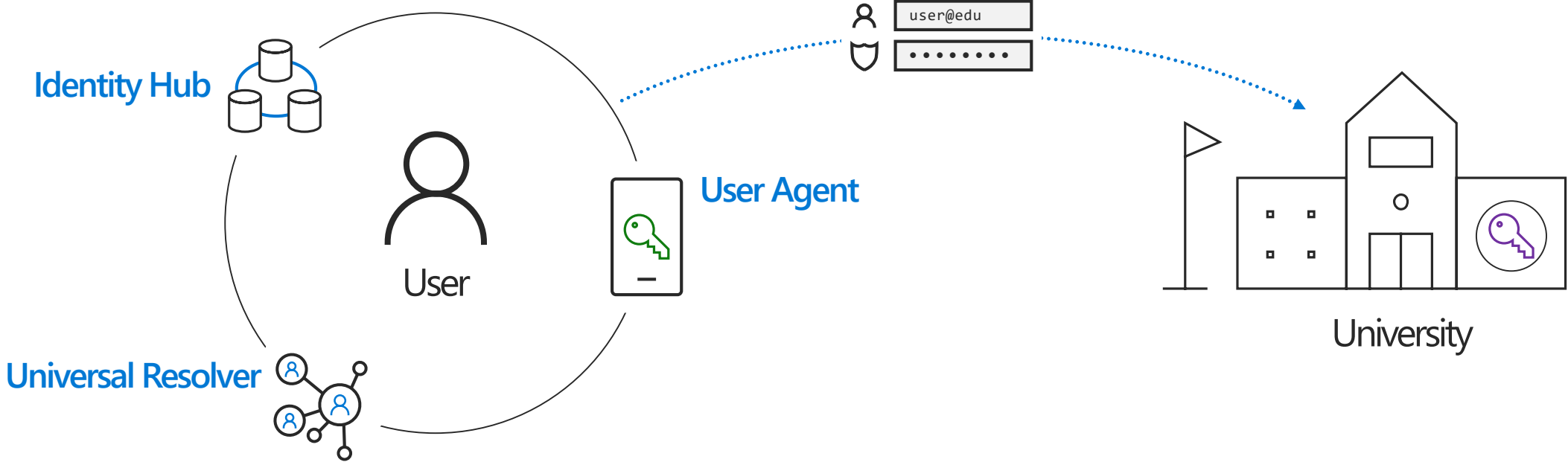


Ethereum *via uPort*



Sovrin *via Sovrin ledger*

Alice signs in using her student credentials



Bitcoin *via Blockstack*

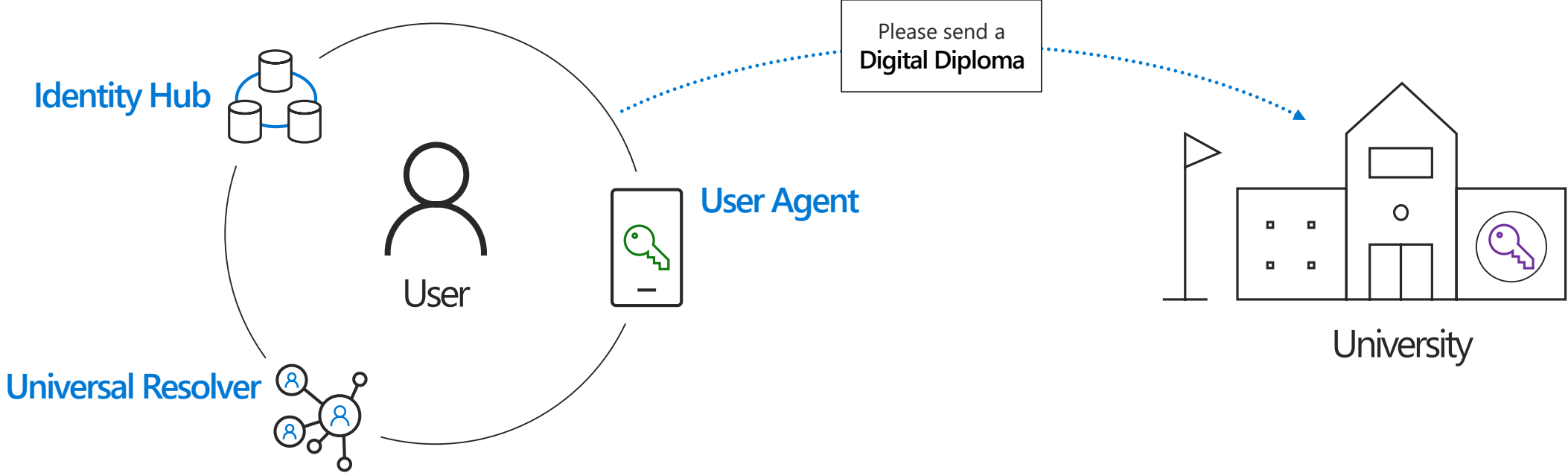


Ethereum *via uPort*



Sovrin *via Sovrin ledger*

and requests a digital diploma

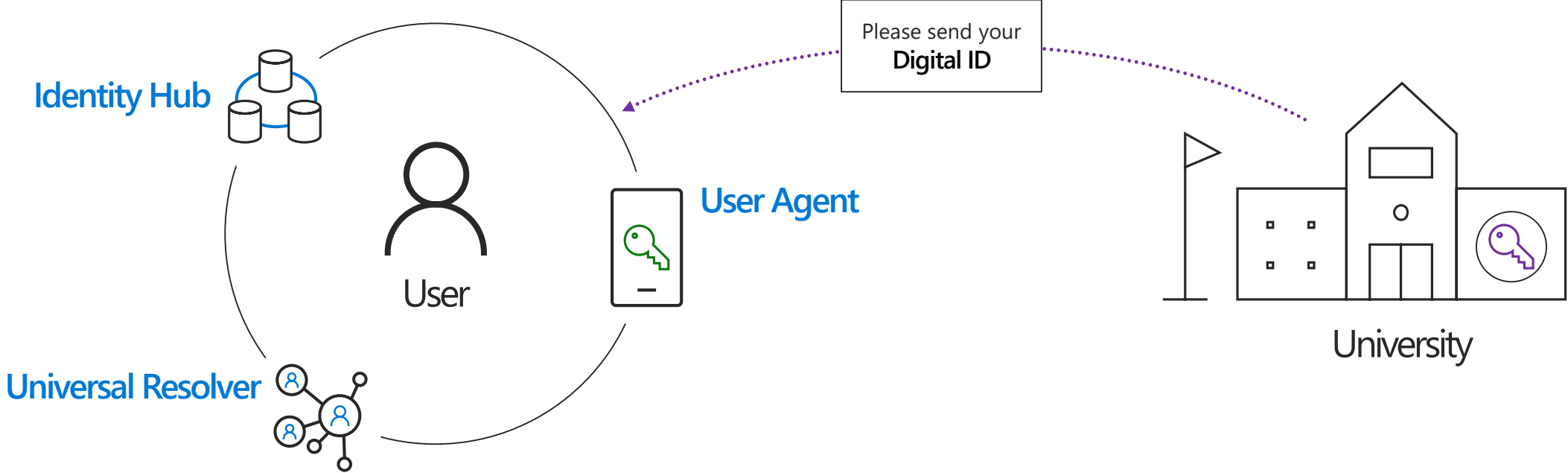



Bitcoin *via Blockstack*


Ethereum *via uPort*


Sovrin *via Sovrin ledger*

The University requests Alice's Digital ID



Bitcoin *via Blockstack*

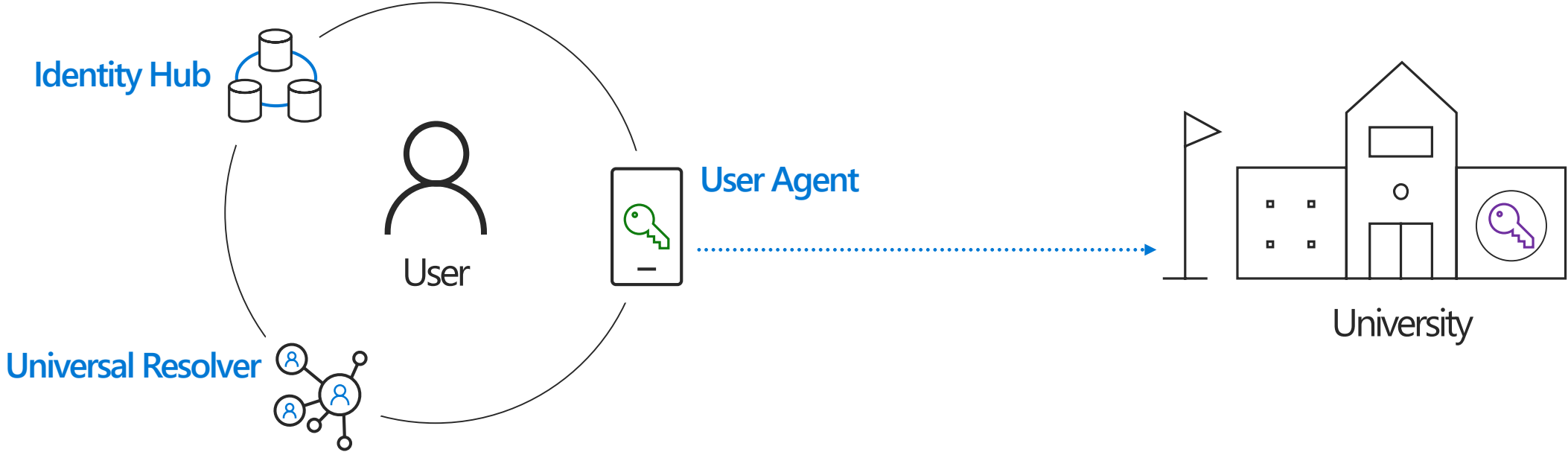


Ethereum *via uPort*



Sovrin *via Sovrin ledger*

The User Agent discloses the Digital ID to the University



Bitcoin *via Blockstack*

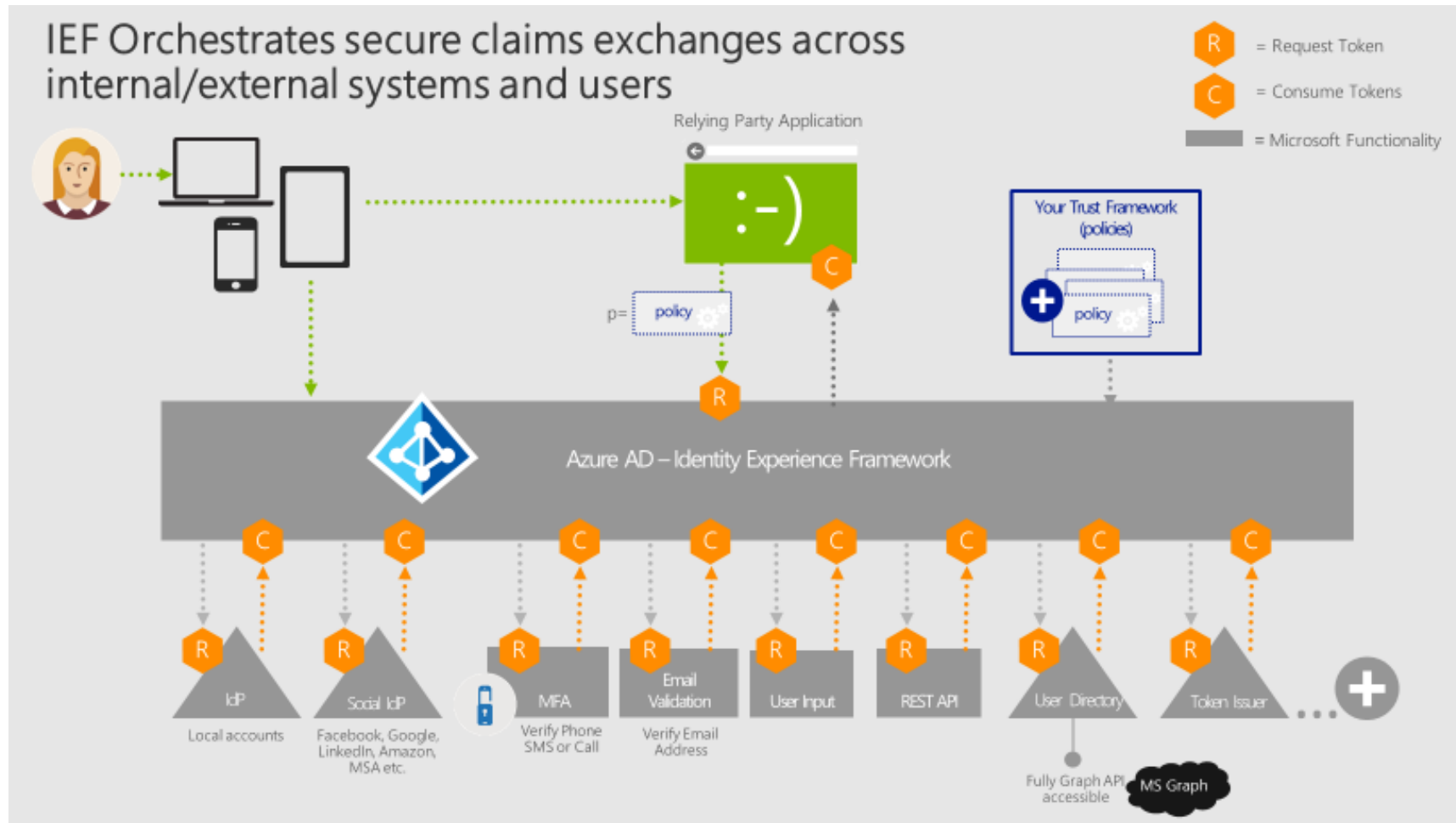


Ethereum *via uPort*



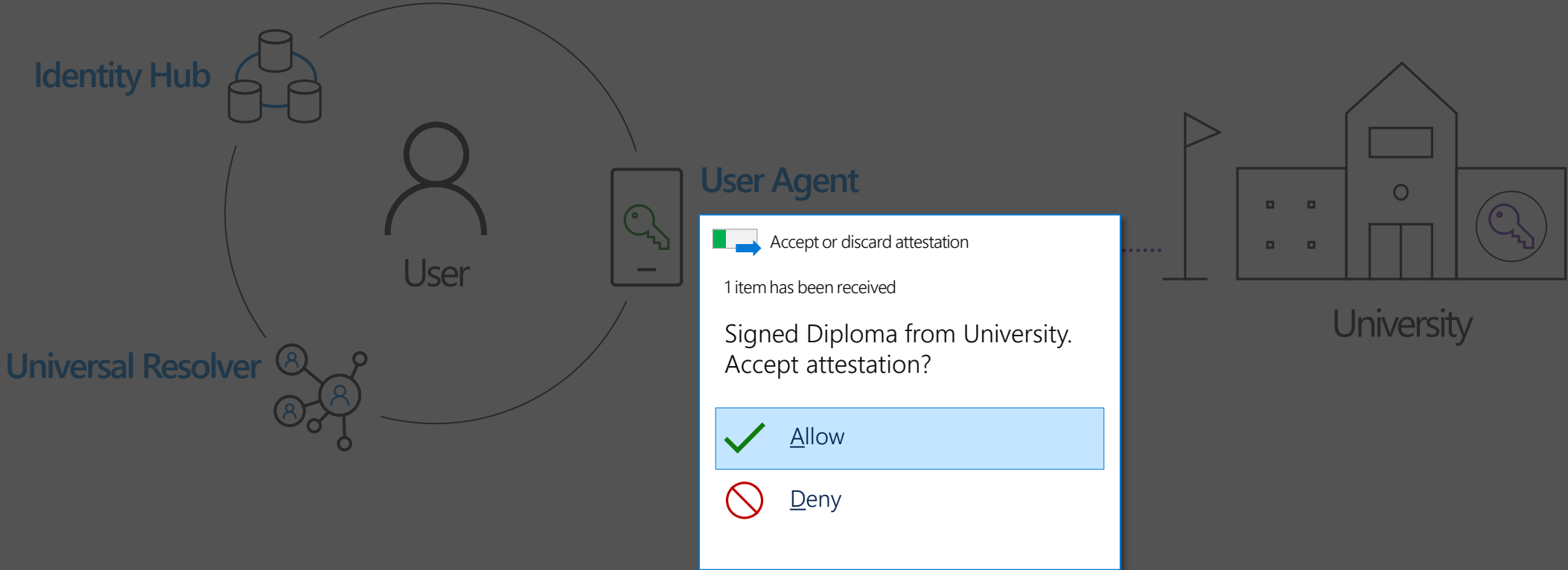
Sovrin *via Sovrin ledger*

Making DID-based compatible with existing claims



Identity Experience Framework (IEF) enables app developers to transform claims across identity systems. Details available [here](#).

The University sends a digital diploma signed with its digital ID

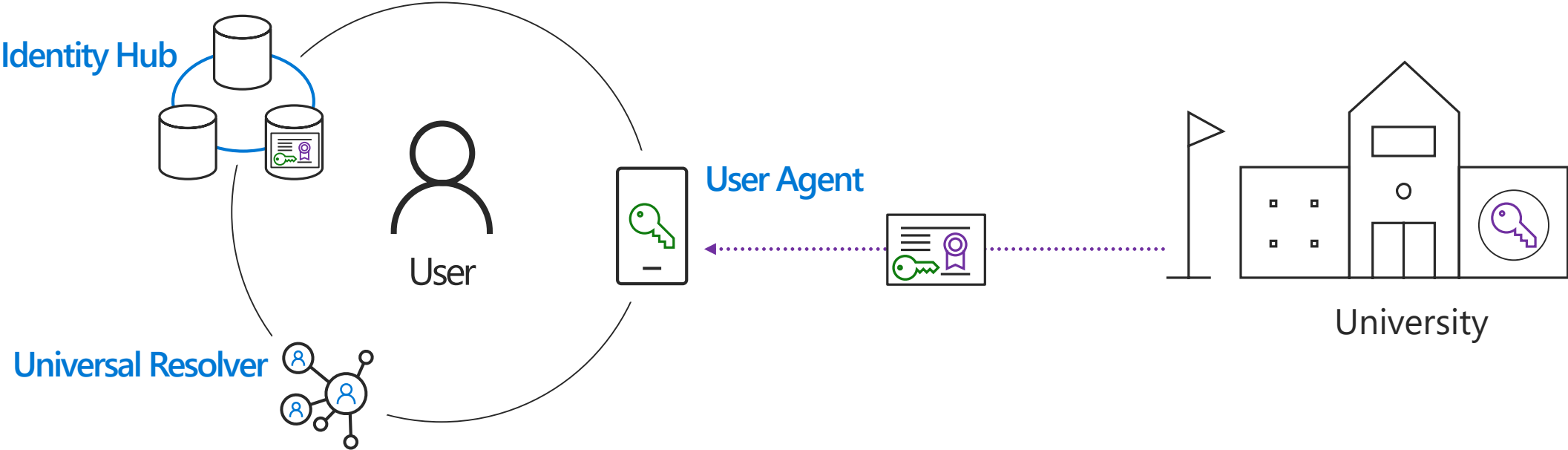



Bitcoin via Blockstack


Ethereum via uPort


Sovrin via Sovrin ledger

The User Agent signs and stores it in Alice's identity hub



Bitcoin via Blockstack

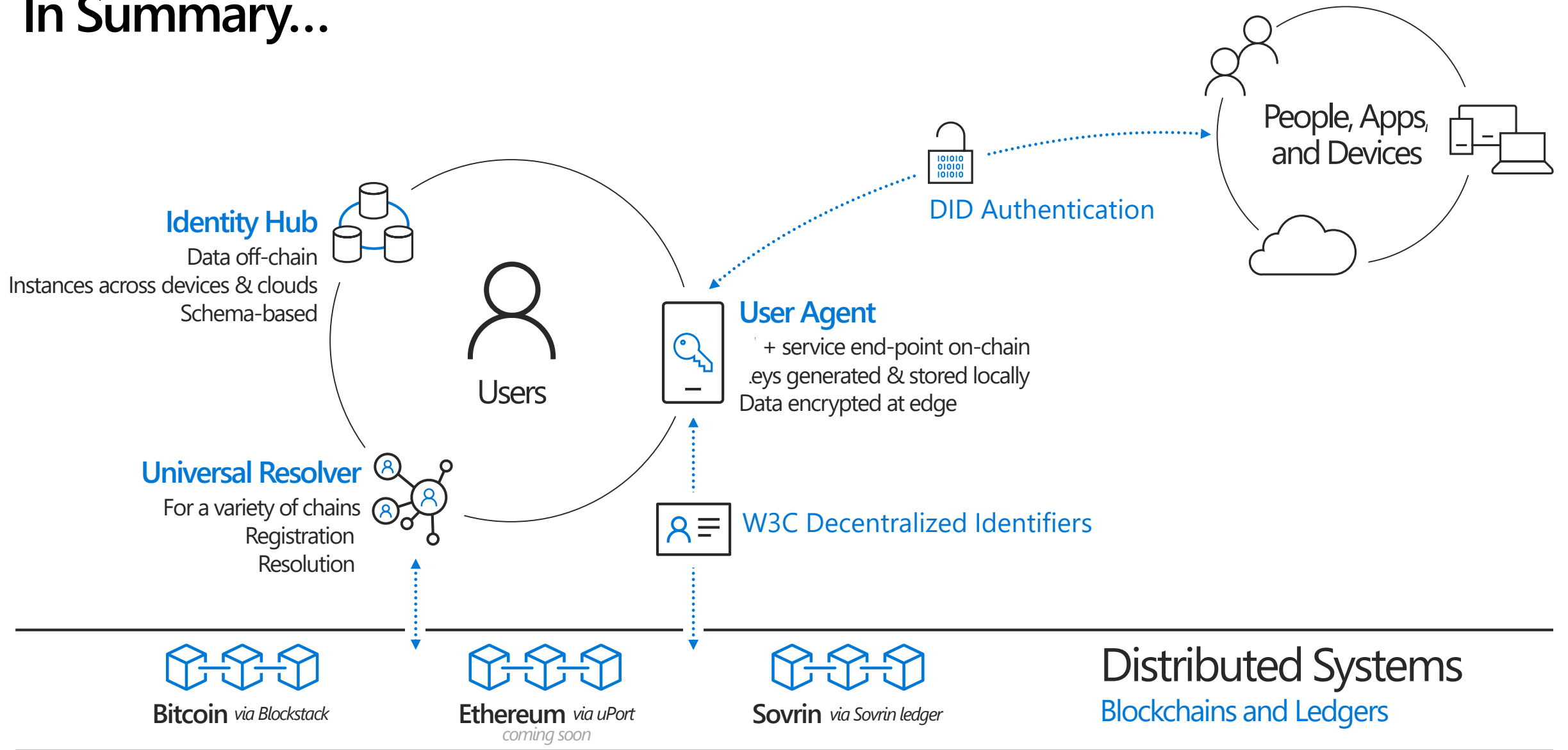


Ethereum via uPort

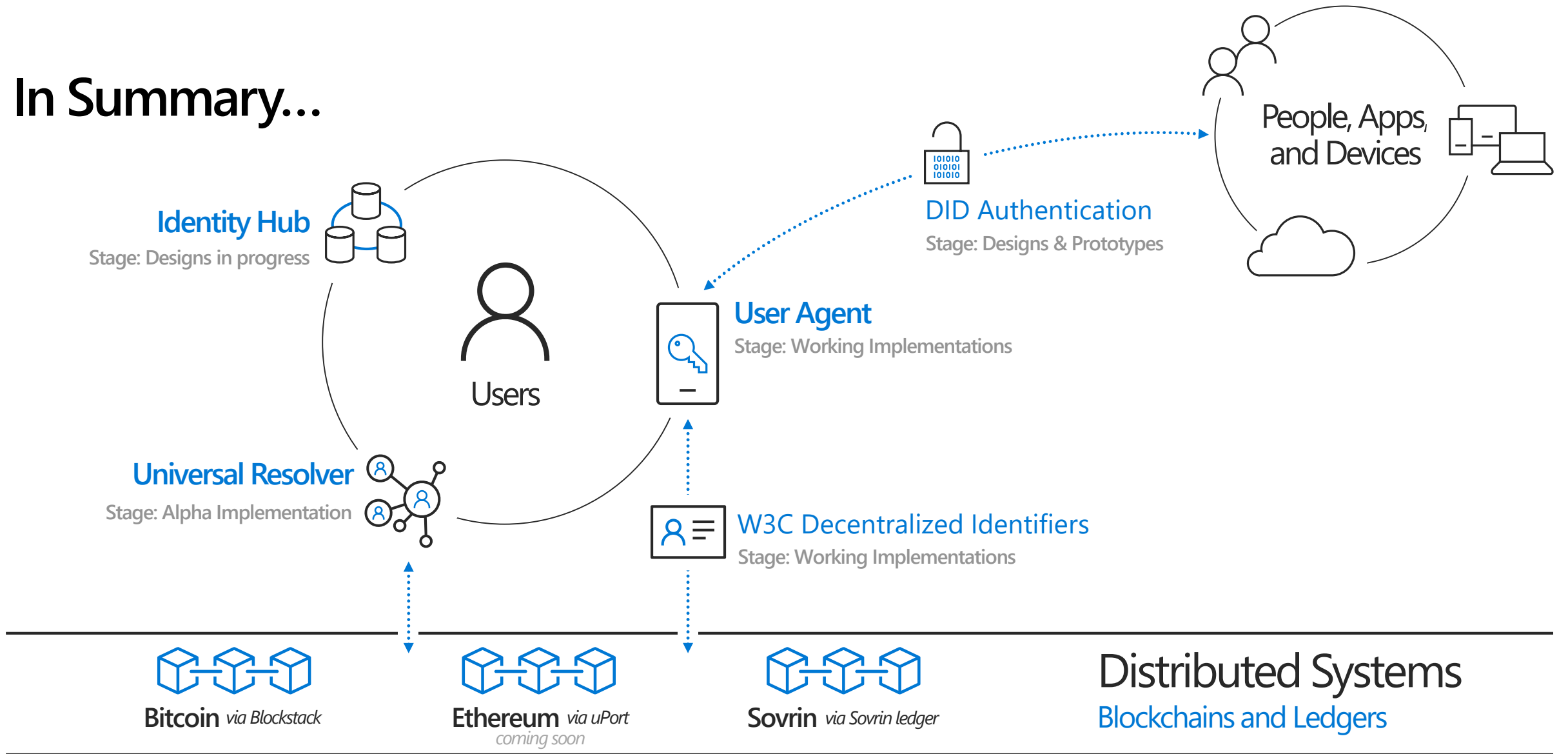


Sovrin via Sovrin ledger

In Summary...



In Summary...



The next 3 steps to making the ecosystem real

1. Ease of use

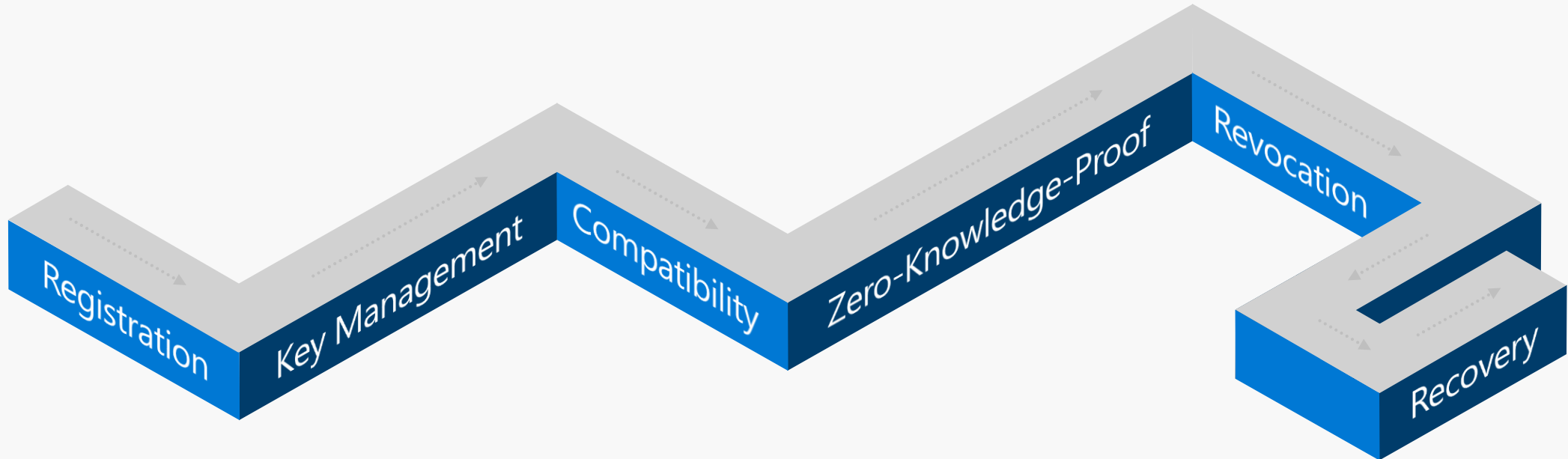
Registration

Key management

Zero-knowledge-proof

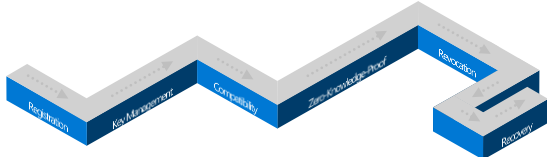
Compatibility

Recovery and revocation



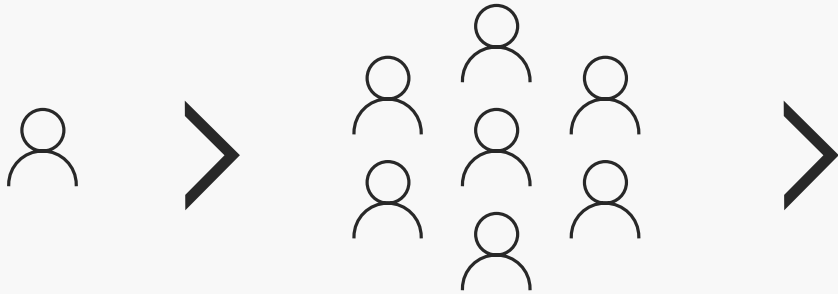
The next 3 steps to making the ecosystem real

1. Ease of use



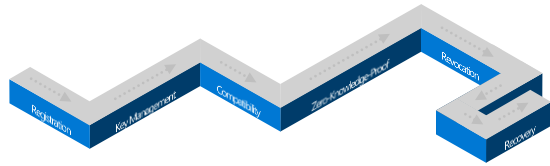
2. Performance & Scale

Consistent experience that scales globally including 10s to 100s of thousands per second.



The next 3 steps to making the ecosystem real

1. Ease of use



2. Performance & Scale



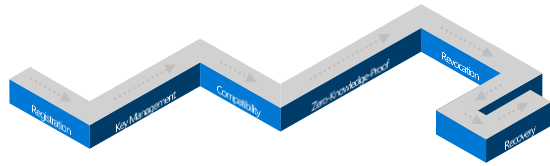
3. Join, collaborate, and contribute

Including OAuth, FIDO, JWT, devices, and more



The next 3 steps to making the ecosystem real

1. Ease of use



2. Performance & Scale



3. Join, collaborate, and contribute



Thank you.

OwnYourIdentity@microsoft.com