Digital Identity
3DID: A model for Digital Identity

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securing tomorrow's transactions

Digital identity is an area of strategic importance to many organisations. More people than ever are connected through multiple devices to the Internet. Higher value services, such as banking and healthcare, are being delivered digitally. Even when a service is physical, such as transportation, it is often being enabled digitally. All aspects of business including marketing, sales, supply, delivery, and support are experiencing a massive shift towards digital. Portable digital identity is the key to ensuring both security and convenience for people as they access the digital economy.

The lack of widescale digital identity is not due to lack of effort. There is a bewildering array of government and industry initiatives actively seeking to build and promote digital identity ecosystems.
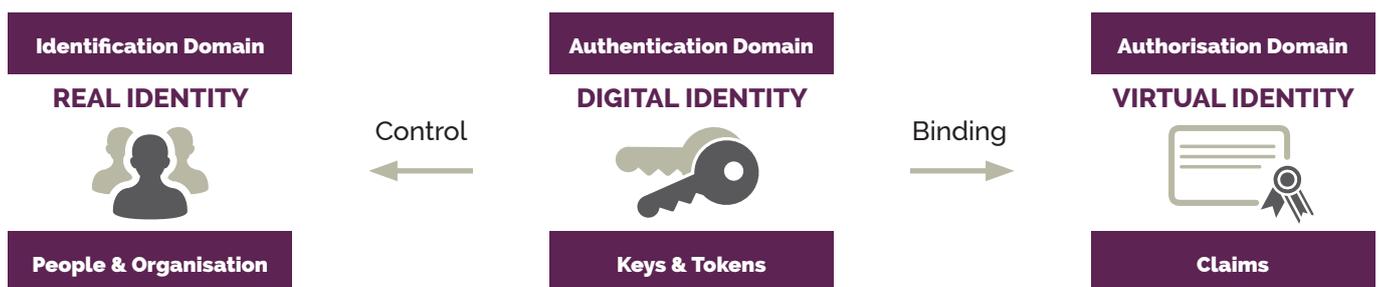
Digital identity data needs to be portable. If organisations are forced to manage people's identities in isolation, the result is poor user experience, the need to repeatedly perform the same steps at multiple organisations and personal information being unnecessarily replicated across organisations. This is bad for people and organisations alike.

Consult Hyperion's 3DID model helps our clients make sense of a confusing landscape, challenge approaches that do not make sense and, most importantly, work out where they should play.

Why do we need portable digital identity?

Today identity is held in silos. Each organisation a person interacts with has its own "virtual identity" for that person, consisting of the personal information or "claims" that the organisation knows. These virtual identities are locked up. If the person wants to open a new bank account, buy insurance, submit taxes and so on, the existence of these virtual identities does not help. Today people have no way of saying "Look, my bank can tell you who I am". There is no way to digitally connect real identities to virtual identities.

The 3-Domain Identity Model (3DID)

Identification Domain		Authentication Domain		Authorisation Domain
REAL IDENTITY	Control	**DIGITAL IDENTITY**	Binding	**VIRTUAL IDENTITY**
People & Organisation	←	Keys & Tokens	→	Claims

Digital identity is the bridge between real identities and virtual identities. It is the means through which a person (or organisation) can make his or her virtual identities portable, so that it is possible to say digitally "Look, my bank can tell you who I am".
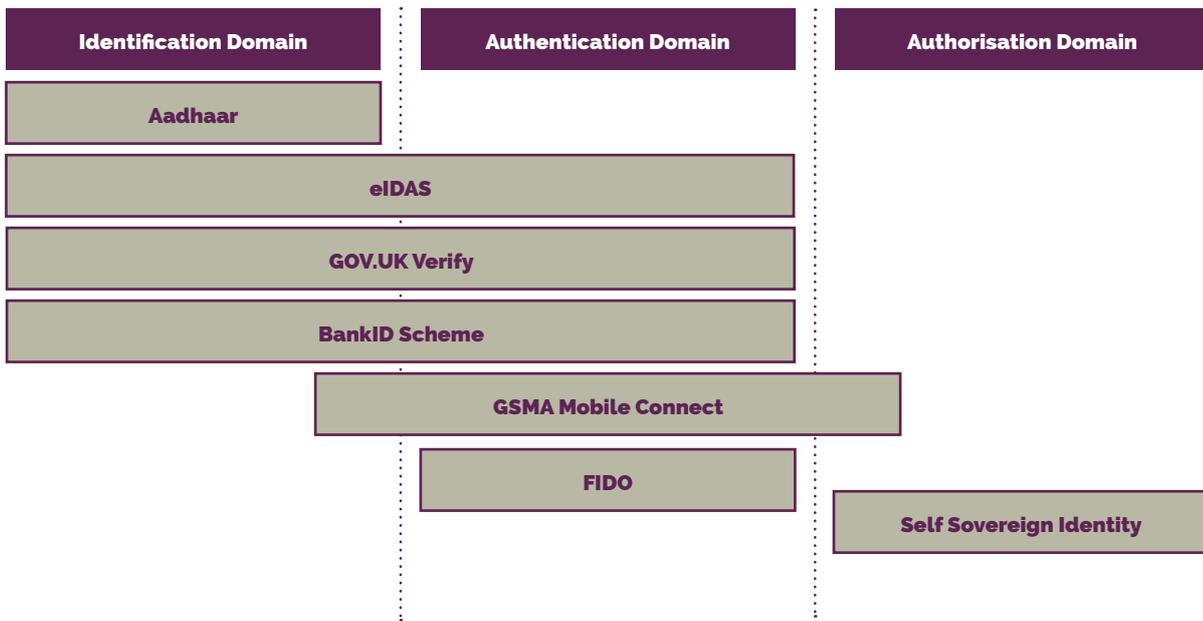
We define three domains:

- **Identification Domain:** the real, unique and identifiable person.

- **Authentication Domain:** the means by which a real person can assert their identity digitally. A person can have one or more digital identities.

- **Authorisation Domain:** the virtual identities belonging to the real person, that can be combined in any number of ways allowing the real person to present many digital personas.

Digital identity sits in the middle and provides:

- **Control:** by ensuring only the real person has access to their keys or other authentication tokens which enable their virtual identities to be used.

- **Binding:** by allowing the person to associate virtual identities from multiple places with their digital identities.

How the landscape is changing

The digital identity solutions that have been developed to date have solved particular problems.

Identification Domain	Authentication Domain	Authorisation Domain

- **Aadhaar**
- **eIDAS**
- **GOV.UK Verify**
- **BankID Scheme**
- **GSMA Mobile Connect**
- **FIDO**
- **Self Sovereign Identity**

A key barrier to the adoption of digital identity solutions has been the perception (and in some cases the reality) that it will disrupt the relationship with the customer. Until recently many solutions to digital identity have focused on identification with "identity providers" inserting themselves in front of services. Instead of mobilising virtual identities, they create a new silo of data that sits between the customer and service. No service provider wants this.

To work digital identity needs to be a low-cost enabler that is focused on providing the customer with the ability to move seamlessly (and securely) from one digital service to another, taking their virtual identities with them. It is about making digital identity person-centred rather than service-centred. Until this is widely understood we will continue to have fragmented solutions with narrow applicability and limited adoption.

Today identification first ("know your customer") ▶▶

Identification Domain	Authentication Domain	Authorisation Domain

◀◀ **In the future claims will drive digital identity ("are you over 18?")**

Consult Hyperion spends a lot of time thinking about digital identity. For further information about how we can help you develop your digital identity strategy please contact info@chyp.com.

About Consult Hyperion

Consult Hyperion is an independent strategic and technical consultancy, operating on all continents and with offices in the UK and the US. We specialise in secure electronic transactions. With over 30 years experience, we help organisations around the world exploit new technologies to secure electronic payments and identity transaction services. From mobile payments and chip & PIN, to contactless ticketing and customer identity, we deliver value to our clients by supporting them in defining and delivering their strategy. We use a practical approach developed from our expert knowledge of relevant technologies. Hyperlab, our inhouse software development team, further support our globally recognised expertise at every step in the electronic transaction value chain, from authentication, access and networks, to transactional systems and applications. We define, develop, design and deliver.

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