
Mydex Data Services CIC

The opportunity of attribute exchange

Your data, your way

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Introduction

This paper is for organisations that want to understand how the exchange of verified personal data can enable the delivery of innovative customer centric online services, whilst simultaneously reducing costs. It explains how Mydex CIC provides a Trust Framework and Platform - a unique, safe and secure mechanism for the sharing of verified data between connecting organisations and individuals' Personal Data Stores.

By enabling verified attributes to be shared within a trusted framework, customer journeys can be streamlined, interactions improved, processes simplified and the risks related to data sharing reduced.

Many local authorities and organisations, such as housing associations, utilities and mobile phone providers, are moving to online-only provision of some of their services. As this starts to happen people need to be able to prove who they are digitally, as well as certain facts about themselves. These facts could include their benefits status, employment and residential status, educational achievement, age, disability, and so on. For this to be possible, the sharing of this data needs to be verified and secure; the basis of the sharing understood, trusted and agreed upon by all parties.

Mydex CIC equips the individual with a Personal Data Store (PDS), a safe space online that enables them to achieve all this. Individuals can view, store, manage, share and learn from their personal data, as well as combine verified data from different sources to provide the information they need for the service they want, all shared securely under their control.

Organisations that connect to the Mydex Platform can link with an individual's PDS within a legal and technical framework – the Mydex Trust Framework – that offers the secure two-way exchange of verified information. This allows trust to be transferred from one organisation to the individual and then onward to another organisation or process that requires verified data. The provision of this secure channel or mechanism for the sharing of data that can be trusted is one of Mydex CIC's unique capabilities.

What is the problem?

As local authorities and other organisations start to move the access and management of some of their services for citizens online (in accordance with the focus on providing ‘digital by default’ services), a few challenges arise.

Many of these services currently require individuals to provide physical evidence to prove who they are and their entitlement, such as a bank statement, proof of address, blue badge or passport as part of their registration or application. This often involves completing many forms and having to send multiple physical letters. Sometimes this information even has to be duplicated for access to different services.

For these same transactions and provision of evidence to take place online, both parties need to be able to easily prove their identity digitally and for it to be verified. A lot of this evidence is already held in digital format, but there is no way of securely sharing this information. It’s difficult to prove who issued the data, how it was generated, that it hasn’t been modified during transmission, and to be sure that it is reaching the right person or won’t be misused later down the line. Simply sharing a scanned document or uploading one is not sufficient to gain the level of proof required.

As a result of this, citizens are often frustrated by how long it takes to complete online forms and provide the same information again and again. They can feel that the digital services are ‘incomplete’ and are frustrated that they can’t easily access the service they need. The digital method can be seen as inconvenient - another set of usernames and passwords that they need to remember and confusing to the less technical, (rather than an empowering opportunity). Some of these issues have been experienced in the financial services industry for many years as digital financial services have become more prevalent.

Not only this, but the service provider or local authority itself incurs costs in the range of many millions, enabling these transactions in a paper-based format. The cost of a single second-class letter is now 53p. Taking into account multiple or recurring paper-based communications to one individual, the delivery of information alone becomes hugely expensive very quickly. Also, Credit Reference Agency verification services, third party document scanning and verification services are equally expensive. A recent report suggests that the total costs of identity assurance processes in the UK currently exceeds £3.3bn¹.

¹ [Economics of Identity](#), Ctrl-Shift, 2014

What is attribute exchange?

This exchange of information about a person mentioned above – their age, address, benefits status and so on – is known as attribute exchange. An ‘attribute’ is a digital piece of information about a participating party, in this case the individual.

Information becomes ‘verified’ and trustworthy when you have proof of who issued the data itself, proof of the process of issuance by the connecting organisation, and that the data itself has not been modified during transmission and storage. Mydex CIC delivers all three elements supporting the exchange of ‘verified attributes’.

Having verified attributes accessible in one secure space online via their PDS enables the individual to be able to provide the verified information needed for any specific online service they want to use; all without having to visit another service or get physical evidence to complete the transaction.

How does it work?

A local authority or other service provider can securely deliver verified attributes about an individual to their PDS based on information they already hold about this individual and transactions that have taken place. Service providers might include: a housing association; library; credit union; utility provider; a support organisation or mobile phone provider.

The UK central Government departments and agencies are a further example of a potential verified attribute provider. HMRC, DWP or the DVLA could populate an individual’s PDS with digitally signed, verified data.

All information exchanged in the Mydex Trust Framework is end-to-end encrypted using standard PKI encryption and verified connection endpoints.

In this way individuals acquire data and proofs about themselves as a by-product of their daily activity and digital engagement. Examples of this include simple things like getting or renewing a parking permit, providing the jobcentre with the relevant information, submitting a tax return or renewing a driving licence.

Evidence is accumulated from each organisation that connects to an individual's PDS. This builds up a 'proof of claim', a trusted confirmation of a fact about themselves or their lives. They can gradually 'climb up a ladder' of trust and certainty about their identity online reaching a higher and higher level of identity assurance.

With their PDS an individual can use these trusted pieces of information to access other online services provided by organisations connected to the Mydex Platform and Government services via GOV.UK Verify. Mydex CIC is one of five current contracted certified identity providers to the UK Government that carry out identity assurance for anyone accessing Government services online, providing the required mixture of information for the service they need and consenting to sharing it. Any of the certified identity providers can connect to the Mydex Platform and access verified attributes with consent of the citizen.

By making the verified attributes available as part of the online assurance process, it streamlines the customer journey and reduces the risk for the relying party. The individual provides consent for the verified data attributes to be shared for the specific use case of proving their identity or entitlement to a specific service.

A housing association could, for example, require proof that an individual is on specific forms of benefits, such as paying council tax, employed and also a blue badge holder, to make an assessment of their monthly rent based on these verified proofs of claim. The individual being in control of their own, verified personal data, shared securely from their PDS which acts as their own personal ‘proof bank’, is the key to providing this service without the need for physical documents or face-to-face interaction.

What are the benefits for everyone?

The required information in the housing association example described above is specific to this particular individual's circumstances. The individual has all this information easily available at their fingertips. They can be in charge of their own caseload, interacting with the organisation to provide the information required to receive the service they need. Having the individual at the heart of the process, managing their own verified attributes, is crucial. For the organisation issuing the verified data it cuts the cost of distribution and response for evidence and proofs of claims often done manually as paper documents. It ensures that anything they provide cannot be tampered with and is also an opportunity to add value to existing customers for what is actually a net saving in cost and compliance. For the organisation relying on the data (organisations can be both data providers and consumers) it allows for cross-channel service integration, creates cost and time savings, speeds up processes and reduces risks and uncertainty related to sharing important data. It enables processes like Know Your Customer to be quicker and easier and supports improved customer journeys.

The individual enjoys a much easier and repetition-free experience. It enables them to get things done online quickly and easily. They have the verified information they need right at their fingertips, ready to combine and share securely. This means they will find it easier to apply for online services with central Government, for example, because they are already well on their way with the level of identity assurance needed. The vision is to make it possible for an individual to achieve seamless access to services without the need to manually add data into a process, thereby removing the delays that form filling and manual verification can introduce.

If the connecting organisation or the individual, changes a piece of information, this gets automatically updated in the individual's PDS, based on their preferences and consent. For secure communication between the two parties, the PDS is equipped with a digital letterbox, a means of instant and verified communication that cuts out the need for physical post and the associated costs.

The more connections an individual makes, the more proofs they collect, the less work they have to do get something done online and the less an organisation needs to do to bring new customers on board and process applications for services. It is a virtuous expanding circle of trust.

What happens at the moment?

Attribute exchange is not a new idea. Billions of people share personal data every day to complete some online transactions. Most of these transactions, however, do not involve the level of trust and verification required for the provision of financial benefits and social care. Data being shared is often self asserted data, or is secured by accessing data held in another online website or service. Neither affords the same level of trust.

In such cases the individual is often unaware of the future use of the data they have shared and the impact that this could have on them personally and potentially on others. They are not in control of the data and it is not shared within a regulated framework that ensures the implicit permission of all parties for data sharing. More is required in order for verified attribute exchange to enable more critical transactions.

What is needed?

For attribute exchange to function in these important transactions and applications, and in the provision of some critical services by organisations such as a local authority, housing association or care provider, trust must be established and maintained across all stakeholders. Trust, therefore, must be built into the fabric of the data exchange process. This means the precise process and use of the data must be transparent to all involved, and be auditable. There must be assurance that the data has not been tampered with in transmission or storage. The central principle in all of this is that the individual must have personal control over their personal data. They must directly consent to the use of their data in a fully informed manner for it to be risk free for everyone. They must be able to do this easily but with consistent understanding about what they are doing and be able to easily review and adjust the consent they have given, or even revoke it.

What does Mydex CIC offer?

Mydex CIC is live, certified and UK-based, and can operate at scale today. At Mydex CIC we offer a Trust Framework and Platform that equips all parties to achieve trusted data exchange with fully informed consent.

The connecting organisation is verified as part of joining the Mydex Platform. A relying party is able to understand how the data was generated and any specific process, system or standard that complies with it. They can also rely upon the data for accuracy.

All three elements require Mydex Certification which makes use of cryptographic techniques to deliver the trust needed for an organisation that relies on that data downstream.

Individuals are given a portable, privacy-friendly MydexID, a PDS and set of tools completely free of charge. The MydexID can be used across the internet, without the downside of social login. At the core of the service is the individual's PDS in which they can gather verified and trusted data about their lives and manage the sharing of it with connected and verified organisations and services. The individual also benefits from a set of privacy tools within their PDS for example browsing history, passwords and bookmarks management.

The Mydex Trust Framework and Platform is designed to provide the neutral, secure transport and storage layer for verified attributes and an individual's digital identity. This capability is what sets Mydex CIC apart.

Mydex is a Community Interest Company which has important implications for delivering trust and safety. As a CIC it is 'asset locked' which means it cannot be sold to another company that does not share its specific social purpose and also have an asset lock. It is also subject to a dividend cap which dictates that it must reinvest 65% of all its profits back into furthering its community purpose. This means investment in the Platform, education and support of individuals in becoming more in control of their personal data.

Mydex CIC enables the individual to act as the data controller of the personal data held in their PDS. Mydex CIC has no access, or legal rights, to any data the individual holds. The data is protected using a personal encryption key for unlocking their PDS when they want to access it. This encryption key is only known to the individual.

The Mydex Platform operates under the Mydex Trust Framework and standard Data Sharing Agreement². Mydex CIC is a ISO27001 certified company for information security management as well as a Fair Data³ Certified company and the first Certified Fair Data Enabler, helping other companies to achieve Fair Data certification. It is also a member of Social Enterprise UK and Social Enterprise Scotland.

Another important part of the Mydex Trust Framework and Platform is the open API, which allows application developers and services providers signed up to the Mydex Trust Framework to offer value adding applications and services to individuals who are Mydex members. This creates a new ecosystem for innovation, and new forms of engagement between organisations and individuals.

Mydex CIC is an organisation working for the individual but everyone benefits. Organisations save time, money, reduce risk and achieve closer engagement with their customers. Individuals gain control of the data about themselves and their lives. They are an active participant in the process, their lives are more convenient and they are in charge of what happens to their information. Personal control over personal data is good for everyone.

Mydex CIC is not alone in this endeavour. There is a growing consensus from all political parties and leading organisations, such as the World Economic Forum, that this is the way forward.

² [The Mydex Charter](#)

³ [Fair Data](#), Market Research Society

An example in practice of where this is working

Evidence and benefits

This new approach to the trusted exchange of verified attributes was the subject of a collaborative discovery project carried out earlier this year involving Warwickshire County Council, the Government Digital Service, the Open Identity Exchange (OIX), and Mydex CIC and Verizon, two of the Government certified identity providers. The findings of the study “indicated strong user support”.

The study states in its conclusion (p.14):

“Test users commented that they “love it”, “think it’s brilliant” and wonder: “Why on earth wouldn’t you do it this way”. They feel secure, in control and like the idea “it keeps the naughty boys out”.

For local authorities it is a way of achieving channel shift and digital by default, and at the same time realising tremendous cost savings.

For attribute providers it is a way of driving out costs and improving performance. Many attribute providers are also service providers and could benefit in both ways.

Across central and local government and beyond, attribute exchange along with identity assurance have the potential to become a game changer.’

The paper can be downloaded at:

<http://oixuk.org/wp-content/uploads/2014/09/WCC-2-white-paper-FINAL.pdf>

How to get in contact with Mydex CIC

To find out more about Mydex CIC, visit our website at <http://mydex.org>

If you would like to know more about how a connection to the Mydex Platform could benefit your organisation, please contact:

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