

# Are Personal Data Stores the future of the internet?

Presented by

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Identity Veteran

- *Fetch.ai – Decentralised (and Trustless!) M2M marketplace*
- *Grapeshot / Oracle – Digital advertising data provider*
- *Featurespace - personal predictive analytics*
- *Midentity – Personal identity provider*



# Personal Data Stores – Definition

WHAT

inventory of data  
about an individual

PURPOSE

to selectively share  
that some or all of this  
data.

# Personal Data Stores – Nuances

Not consumed

90% Duplicated

Perfect  
Replication



# Digital Identity – Historical Results

In the  
beginning

Highly trusted institutions with  
highly trusted people

Explosion of  
users / use  
cases

Windows  
Mobile  
(personal computing devices)

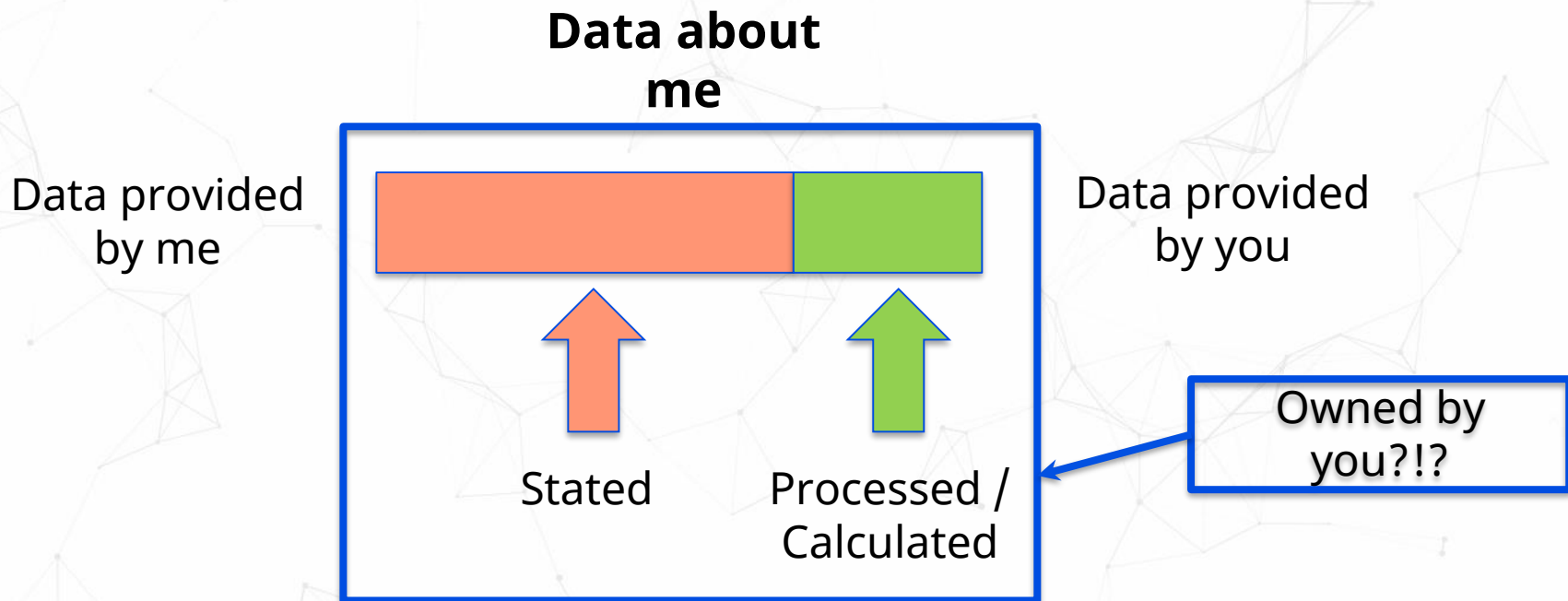
Result

Data defences built on the  
perimeter  
Massive increases in data flow



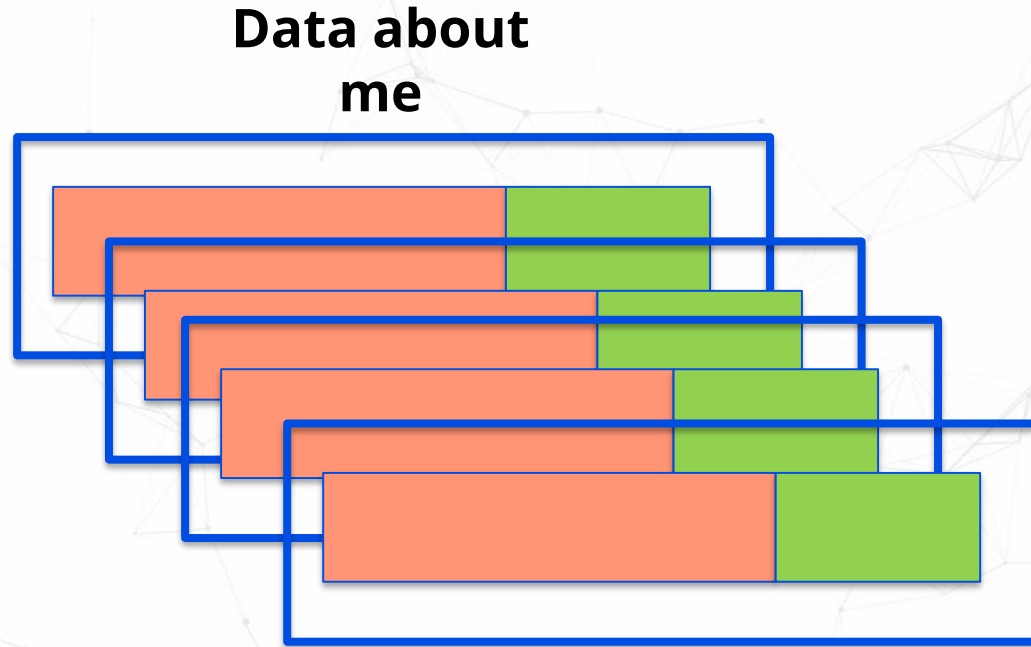
**Personal Data Stores *The*  
*Dilemmas!***

# 1. Personal Data Stores – Ownership?



# 1. Personal Data Stores – Ownership?

Lots of them!



Look at the business model:  
“If you’re not paying for the service, then you’re the product”.

## 2. Centralised vs Decentralised Stores?

Centralised

*Advantage*

One copy =  
Unambiguous  
authority

*Disadvantage*

Catastrophe if stolen or  
destroyed or manipulated

Decentralised

Multiple copies =  
redundancy

Difficulty of updates  
Resolving conflicts  
Increasing attack surface



### 3. Are **WE** ready??

Highest Common  
Denominator

Lowest Common  
Denominator

**ME!**

My wife  
My daughters

My mother

## 4. Who's paying for Personal Identity Stores?

- Me?
- Service providers that want to access my ID / data store?
- Bundled with something else?
- Freemium?

# Seven Laws of Identity – Kim Cameron @Microsoft (2005)

|  |   |
|--|---|
| Law of User Control and Consent                | Identity systems must only reveal information identifying a user with the user's consent.   |
| Minimal Disclosure for a Constrained Use       | The identity system must disclose the least identifying information possible, as this is the most stable, long-term solution.   |
| Law of Justifiable Parties                     | Identity systems must be designed so the disclosure of identifying information is limited to parties having a necessary and justifiable place in a given identity relationship.   |
| Law of Directed Identity                       | A universal identity system must support both "omni-directional" identifiers for use by public entities and "uni-directional" identifiers for use by private entities, thus facilitating discovery while preventing unnecessary release of correlation handles. |
| Law of Pluralism of Operators and Technologies | A universal identity solution must utilize and enable the interoperation of multiple identity technologies run by multiple identity providers.  |
| Law of Human Integration                       | Identity systems must define the human user to be a component of the distributed system, integrated through unambiguous human-machine communication mechanisms offering protection against identity attacks.  |
| Law of Consistent Experience Across Contexts   | The unifying identity metasystem must guarantee its users a simple, consistent experience while enabling separation of contexts through multiple operators and technologies.  |

# Seven Laws of Identity – Kim Cameron @Microsoft (2005)

|  |  |
|--|--|
| Law of User Control and Consent                | With the user's consent  |
| Minimal Disclosure for a Constrained Use       | Least information possible   |
| Law of Justifiable Parties                     | Must be for a valid reason   |
| Law of Directed Identity                       | Just coz I know about you, doesn't mean that you need to know about me |
| Law of Pluralism of Operators and Technologies | Universality / No lock-in  |
| Law of Human Integration                       | Think of humans in M2M transactions                                    |
| Law of Consistent Experience Across Contexts   | Universality   |

# Personal Data Stores – the Dilemmas

1. Data ownership & management
  - About me vs inferred about me
2. Centralised or Decentralised
  - Single treasure trove vs multiple treasure troves
3. User Ability?
  - Highest common denominator vs Lowest common denominator
4. Who's paying?
  - Owner, user / beneficiary, bundled with something else?