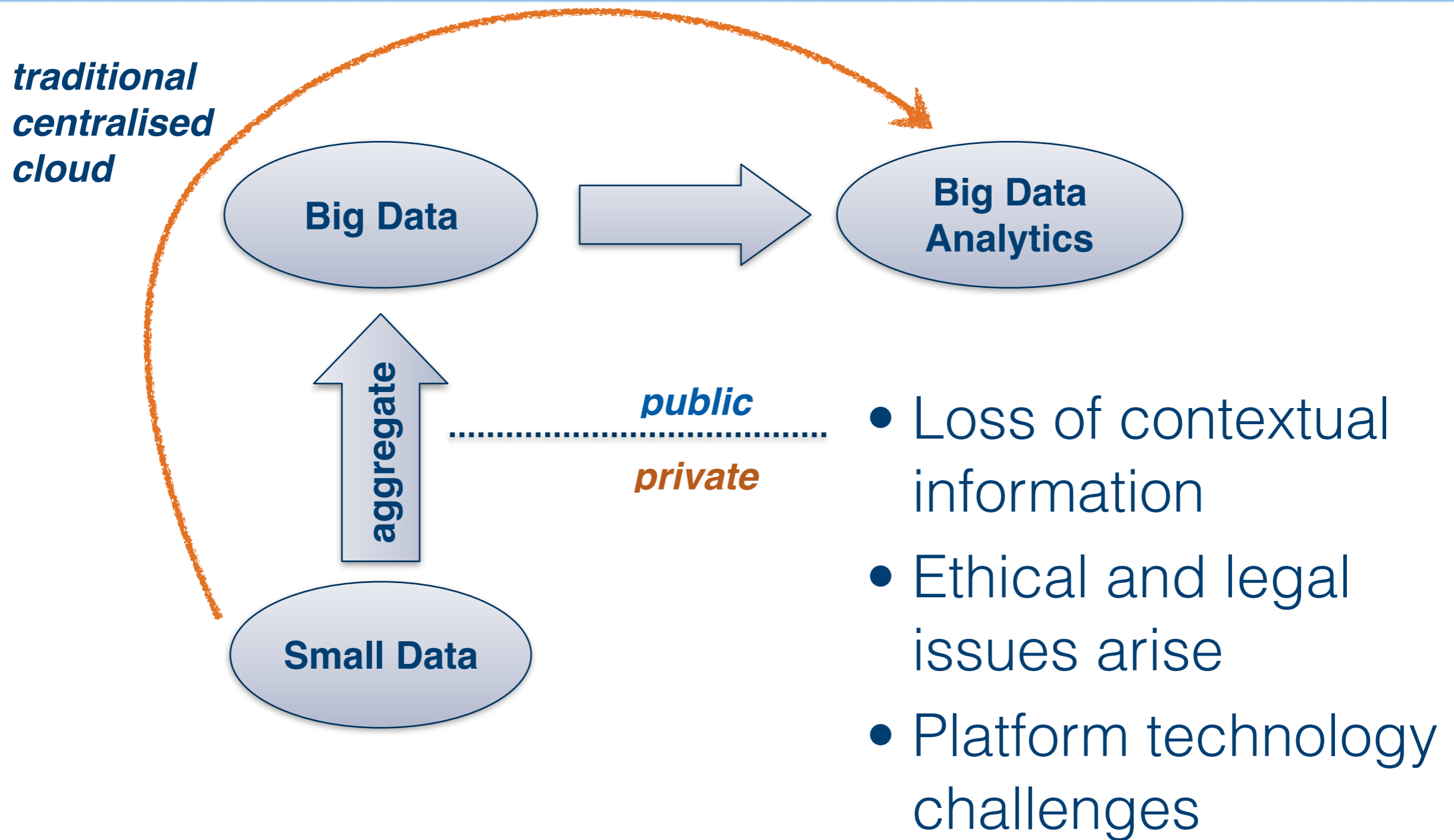
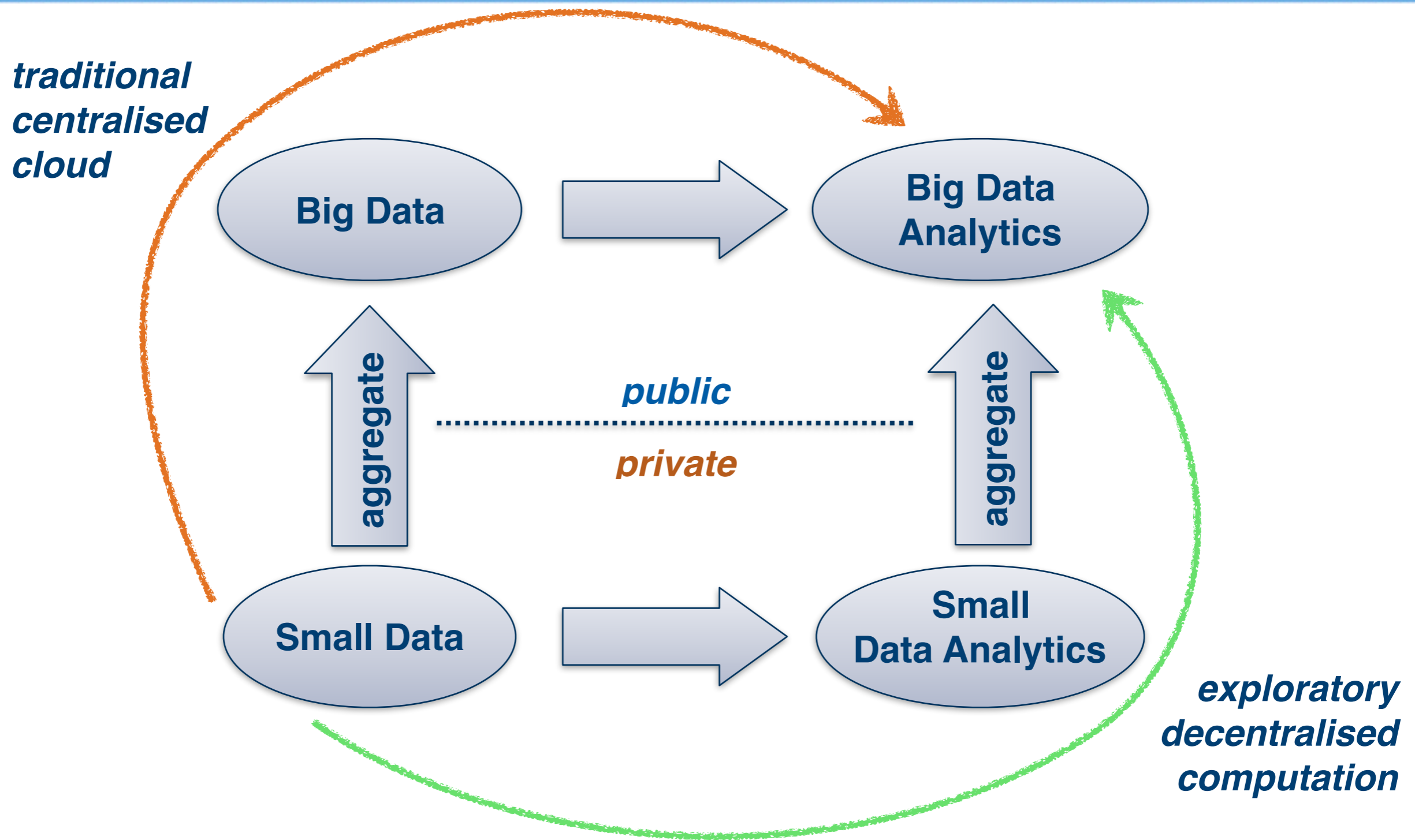


# Databox Technical Architecture

# Big Data Analytics?



# Big Data Analytics? Small Data Analytics!



# Moving Computation to Data

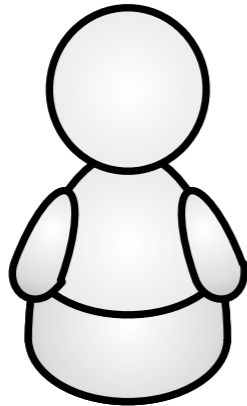
<http://cliparts.co/honey-pot-clip-art>



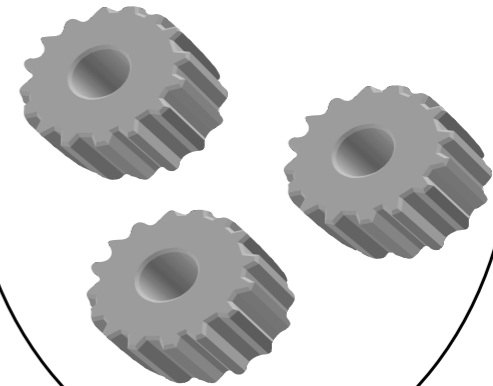
- Reduce honey pot effects
  - Don't collate all users' data in one place
- Process data locally
  - For privacy, efficiency, latency
  - Minimise data export
- For example,
  - Sentiment analysis based on all communications
  - Household occupancy via face detection on front-door video feed

# Databox: Implementing HDI

**subject**



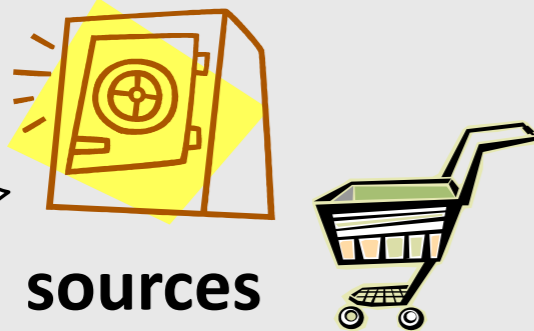
**processors**



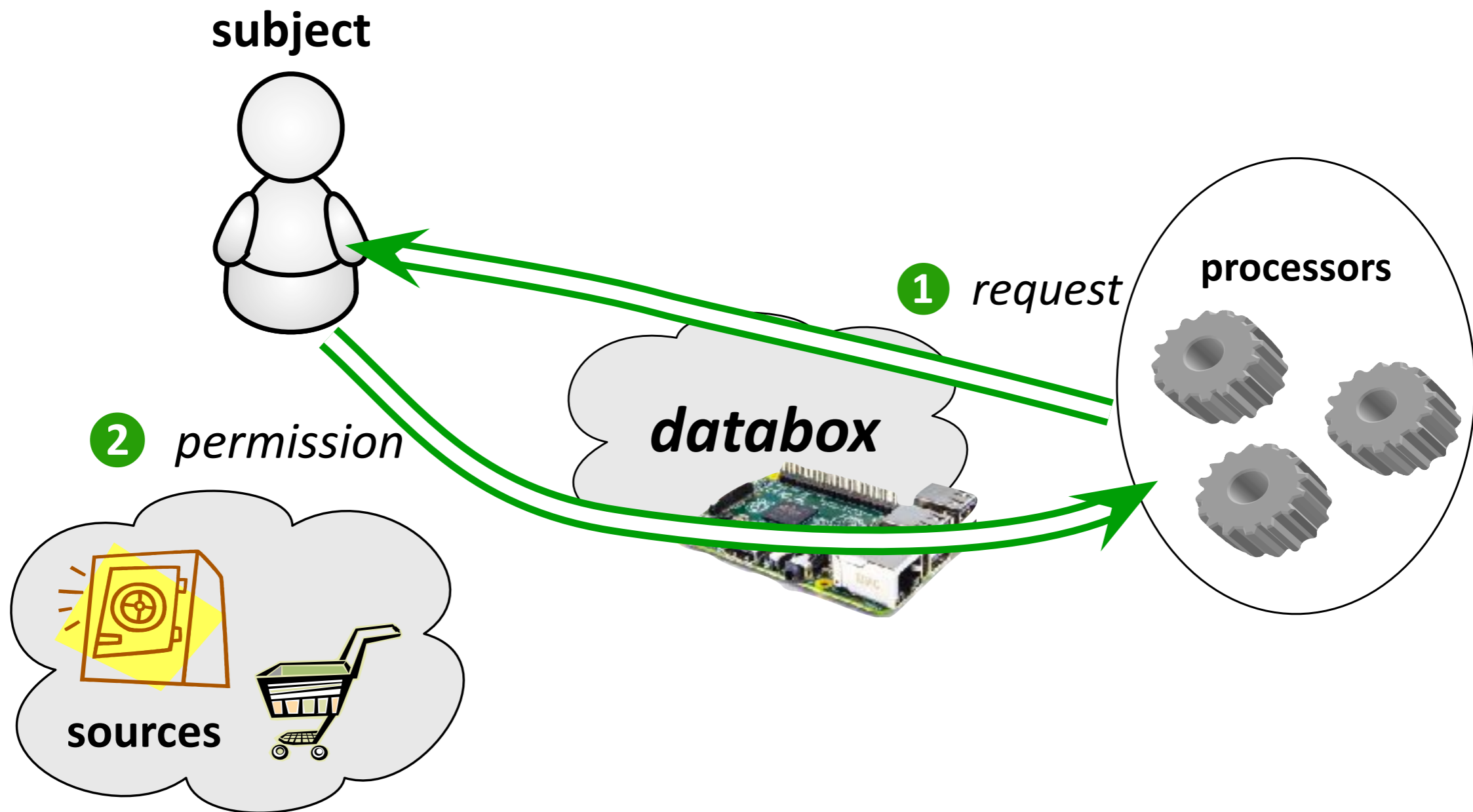
***databox***



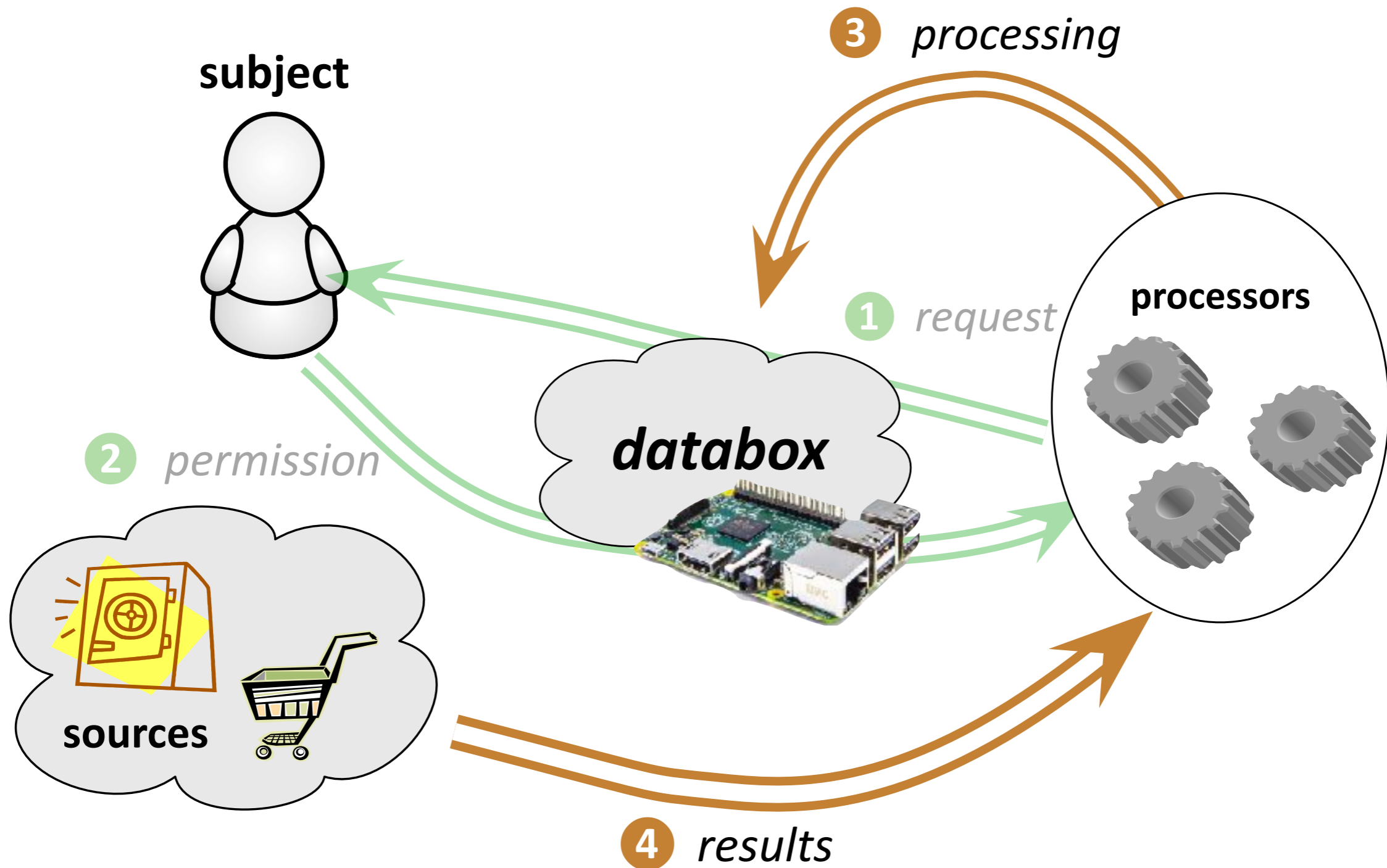
**sources**



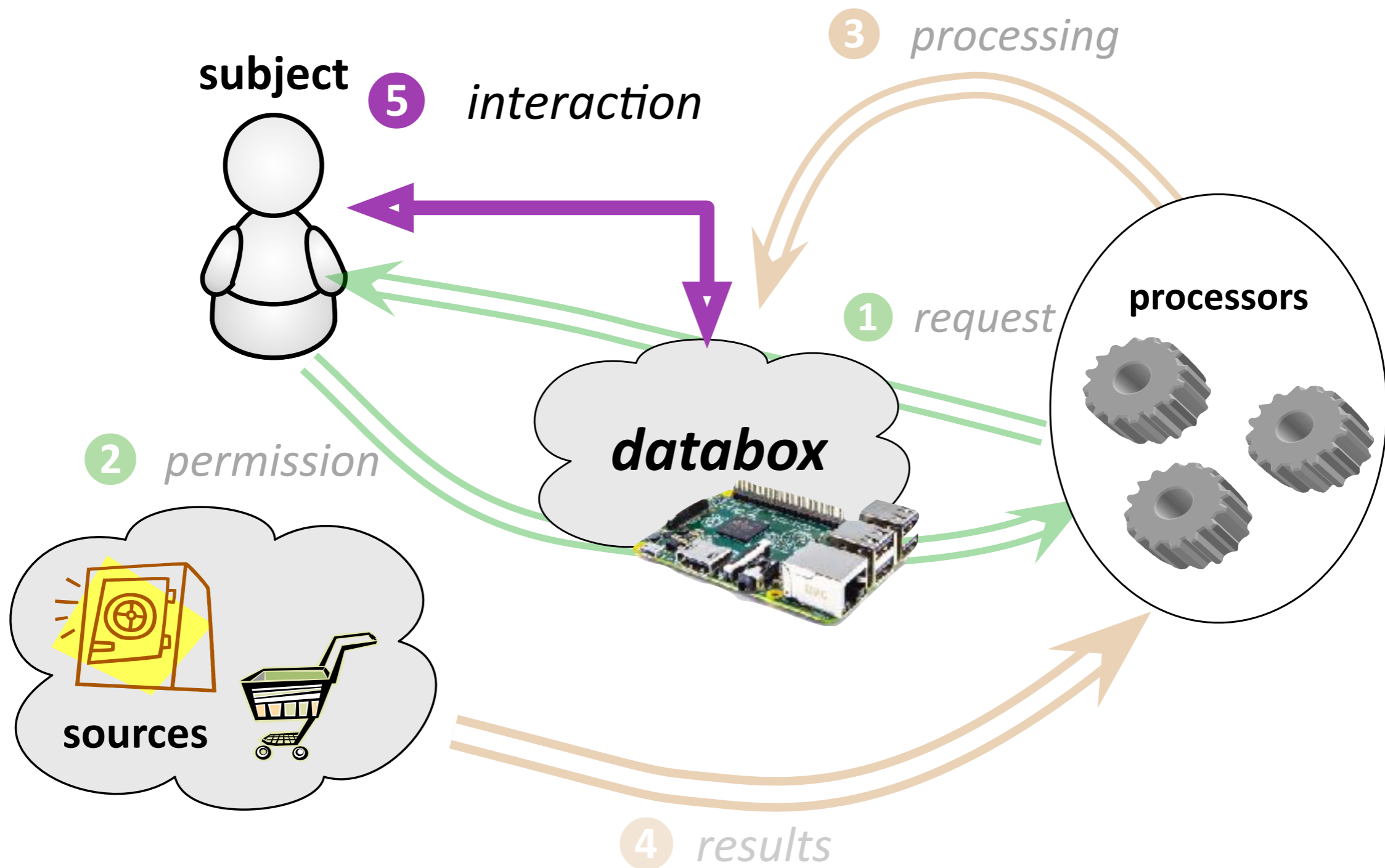
# Databox: Providing Legibility



# Databox: Providing Agency

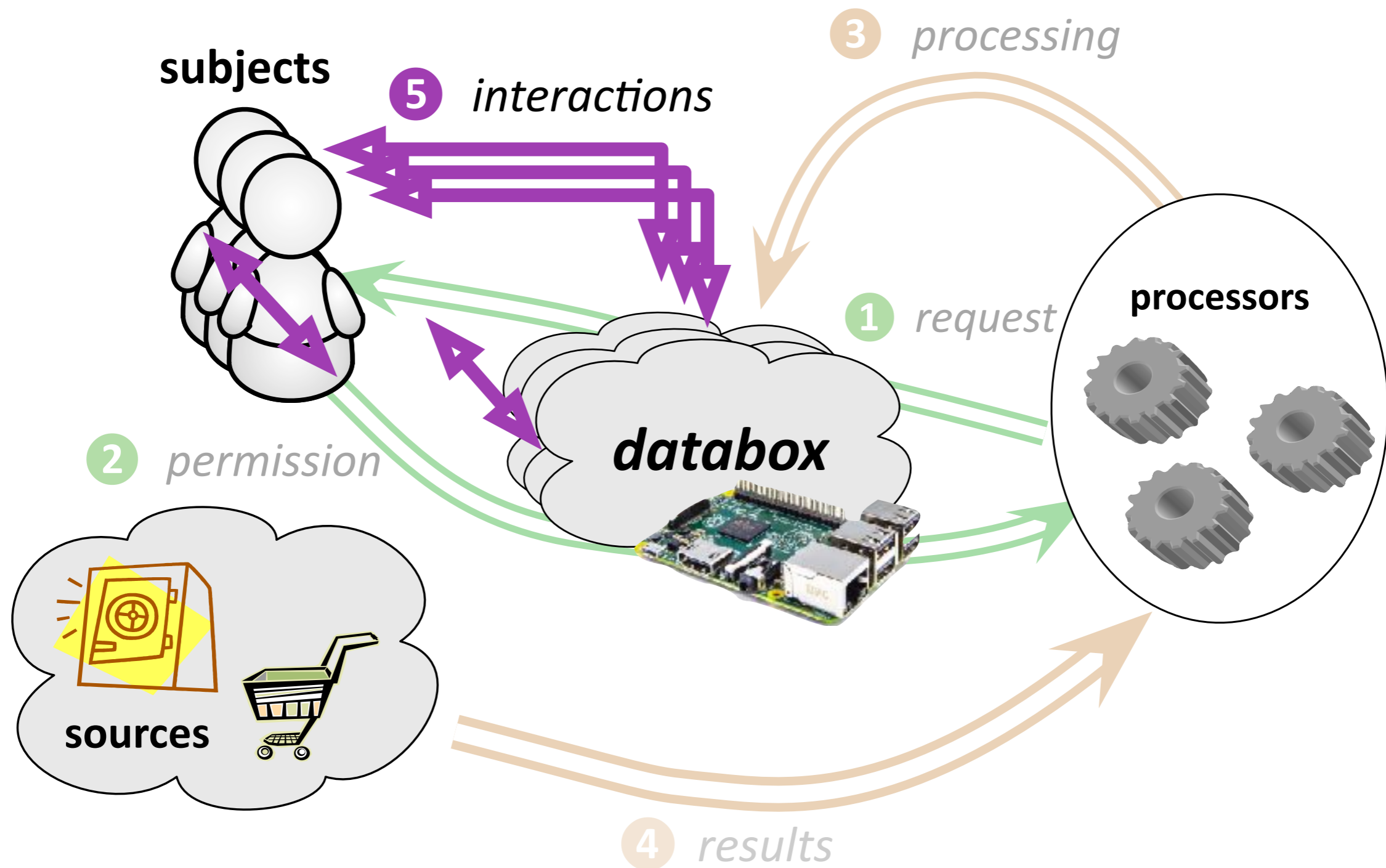


# Databox: Providing Negotiability





# Databox: Providing Interactions



# Design Principles

- Clear separation of components
  - Intercommunication via specified APIs
  - Use of containers (unikernels, VMs...)
- Distinct data sources represented by distinct data stores
  - Breaking into one store doesn't get all the data
- Components disconnected by default
  - Try to reduce attack surface
- All control and data flow logged for audit
  - Help users understand implications of actions
  - In case of breach, understand what happened

# Databox Components

