

# TDWG Standards Architecture What and Why?

**Roger Hyam**  
Technical Architect  
TDWG Infrastructure Project

- There are many projects exchanging data across the internet.



GBIF



speciesLink



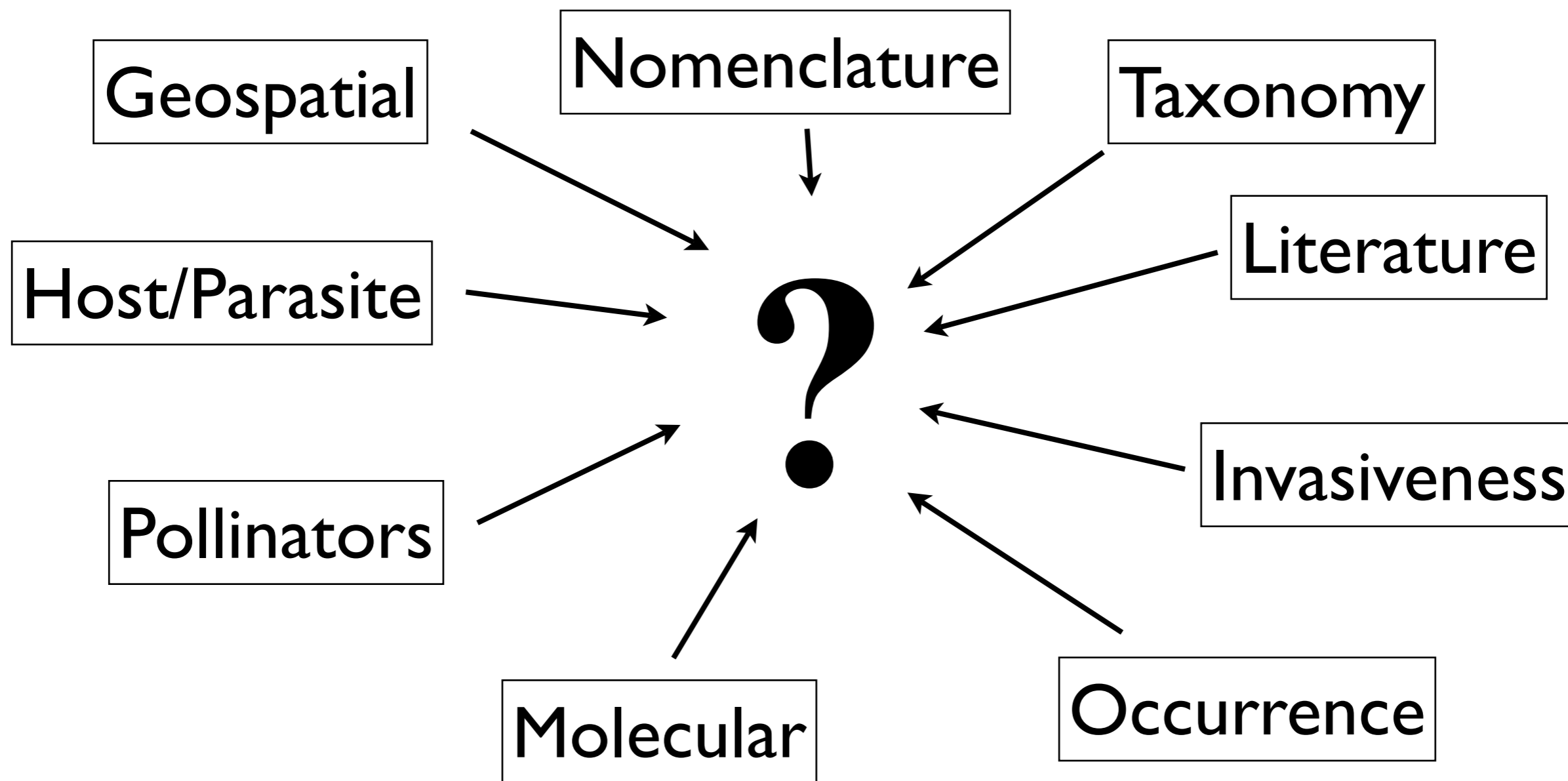
Species  
2000



- Sorry if your logo is missing

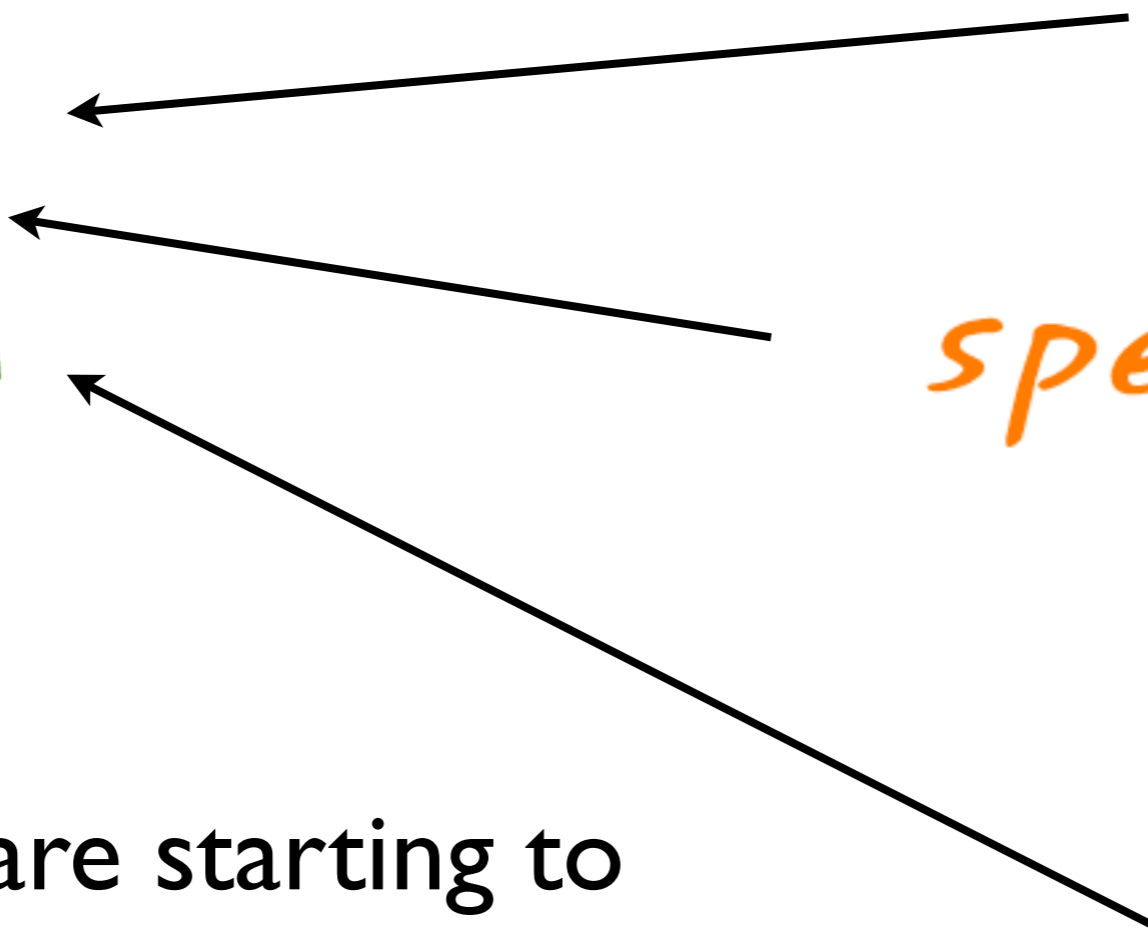
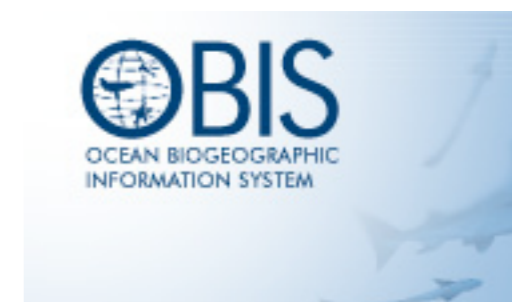
## Why have an Architecture?

## Use Case - Mixed Data & Mixed Sources



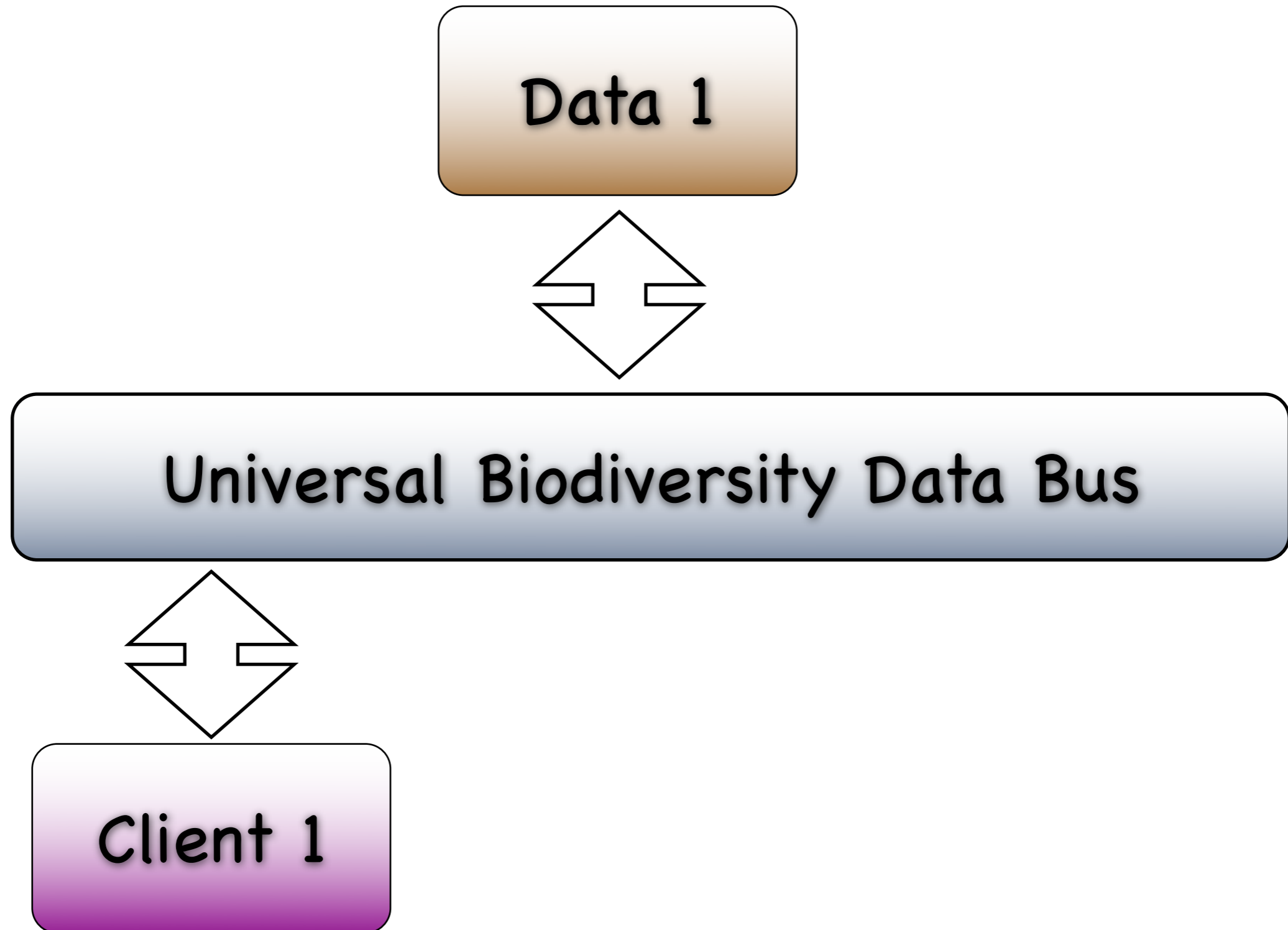


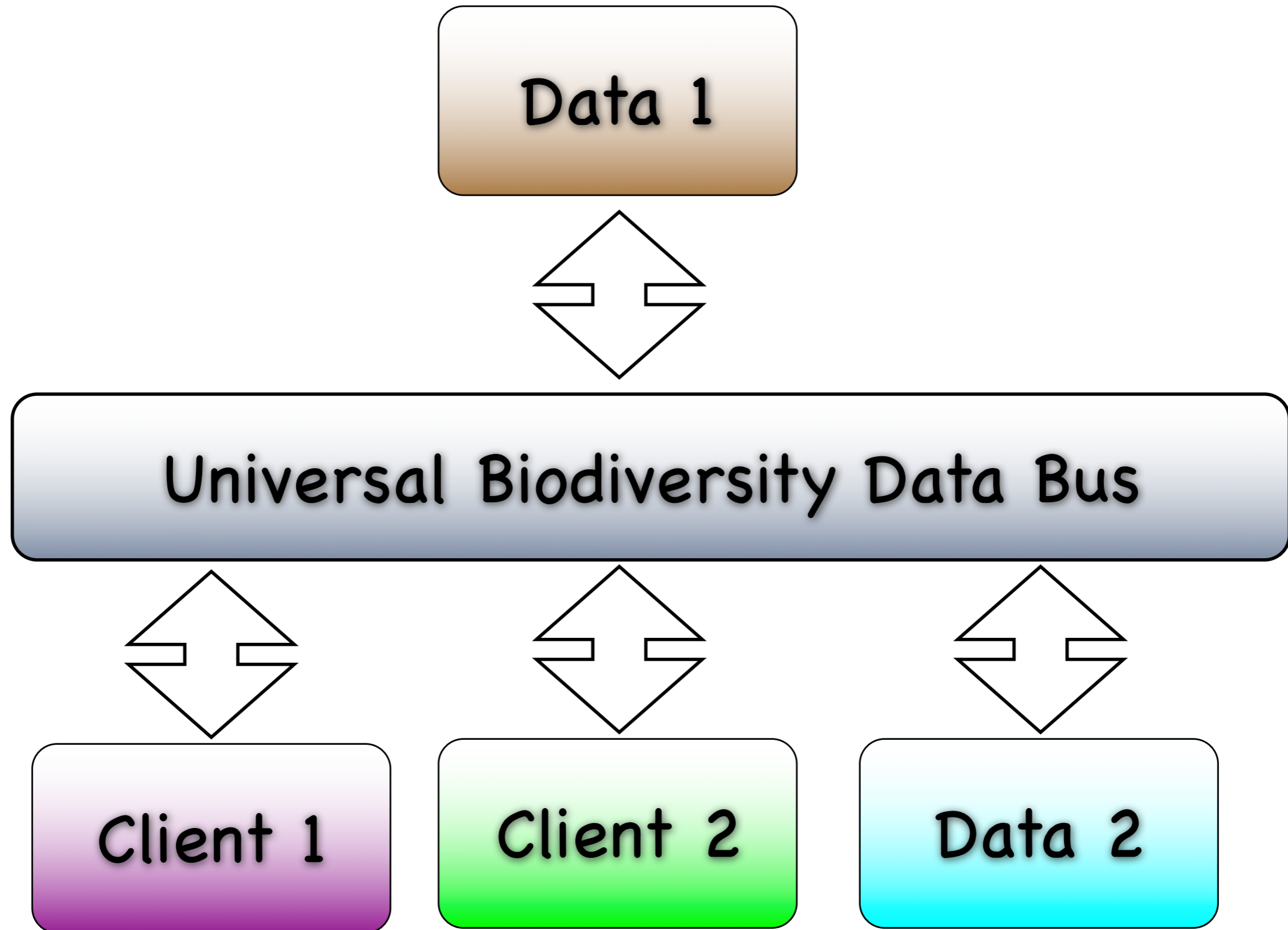
*species* link

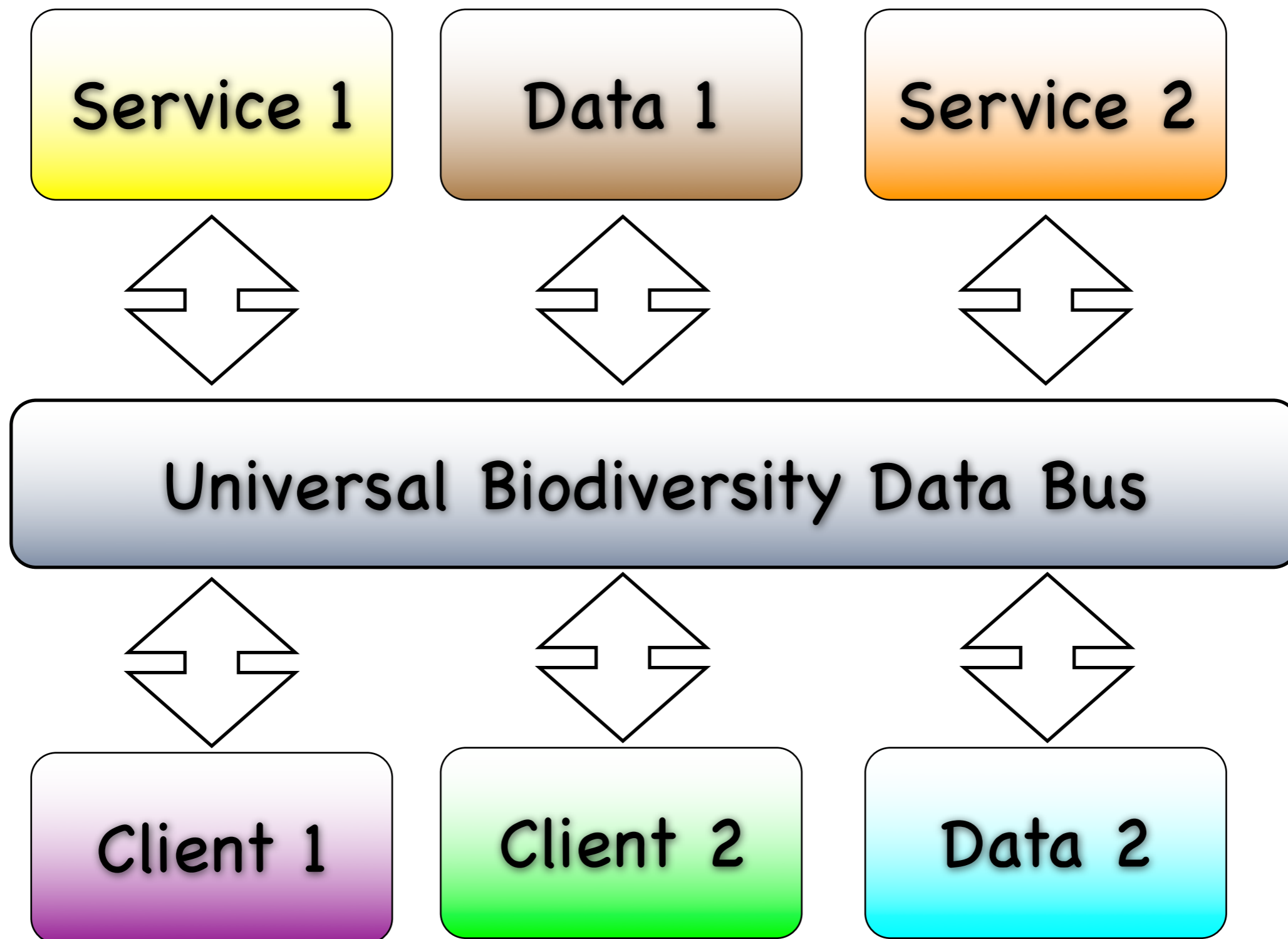


- Networks are starting to share data with other networks

## Universal Biodiversity Data Bus

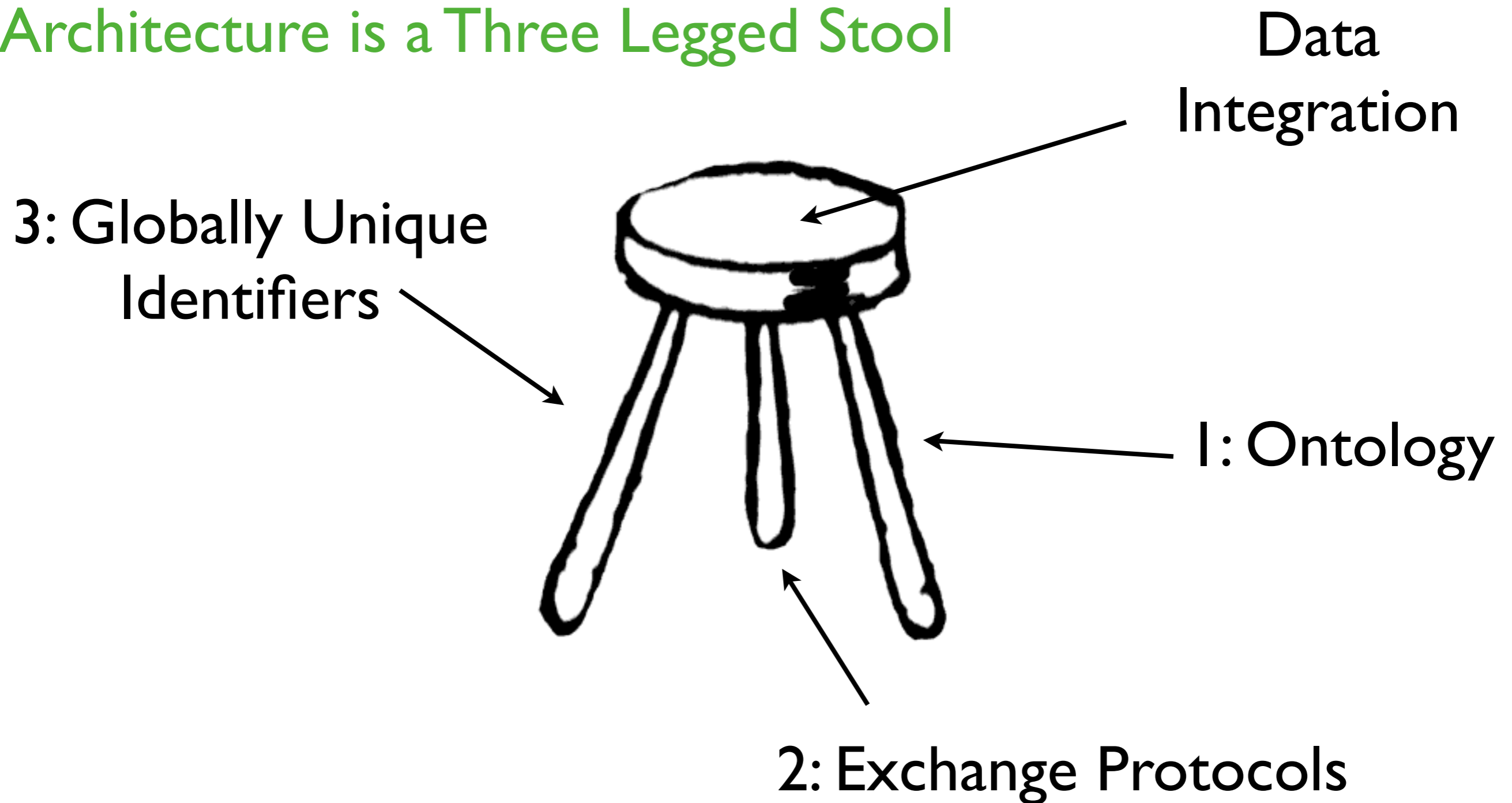






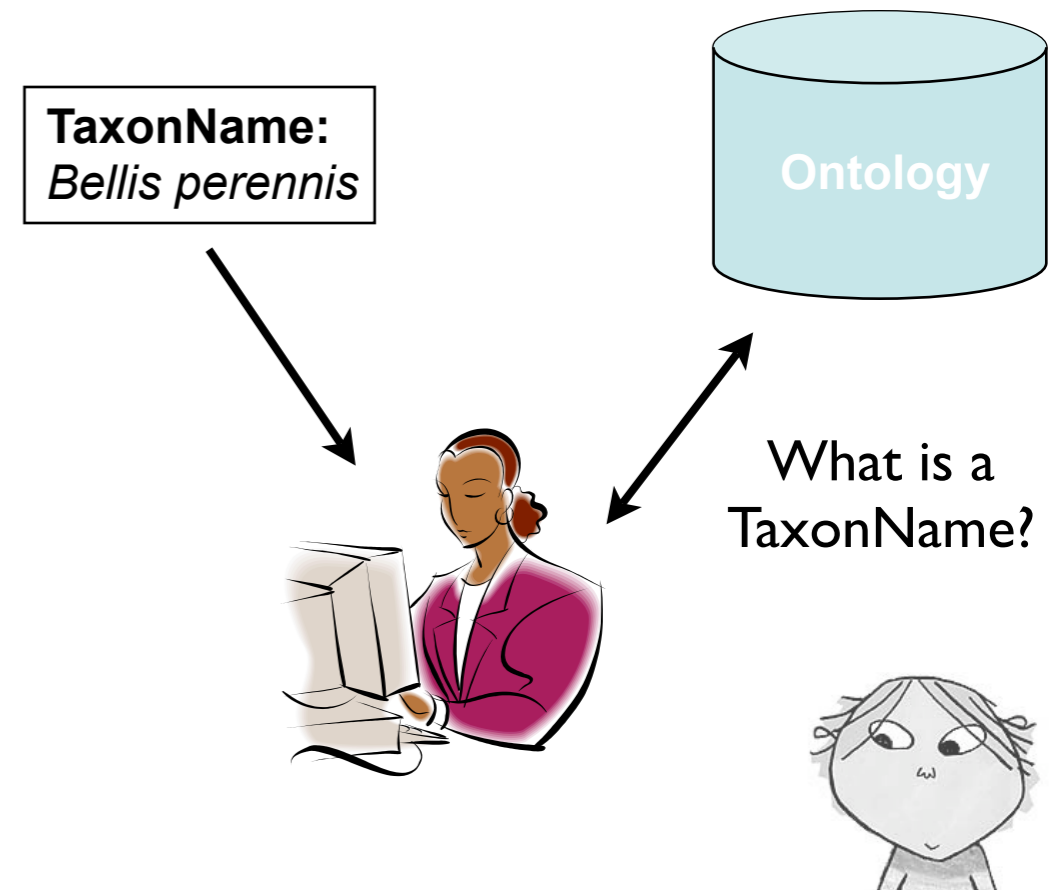
## What Architecture?

## Architecture is a Three Legged Stool



## Leg 1: Ontology

- Defines object types and their properties
- Formal Naming of commonly used types-of-things
- Only for types-of-things in our domain
- Like Dublin Core metadata



- Ontology is for exchange only
- Does not model the whole domain

## Leg 2: Protocols

- TDWG Access Protocol for Information Retrieval (TAPIR)
- Remote users can issue SQL-like requests
- Designed to serve to multiple networks
- KML for Google Earth, or RSS for a news feed possible



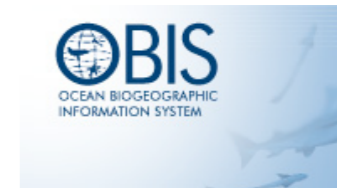
- Architecture not bound to TAPIR
- OAI-PMH, SPARQL or other



## Leg 3: Globally Unique Identifiers



*species* link

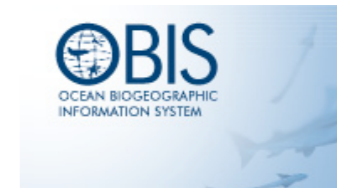
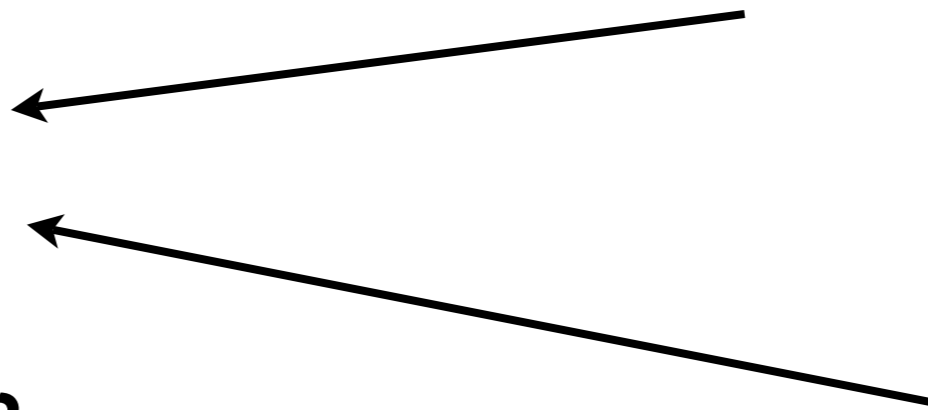


- Architecture not bound to LSID
- Other GUIDs are available

## Leg 3: Globally Unique Identifiers



*species* link



- Same record twice?

- Architecture not bound to LSID
- Other GUIDs are available

## Leg 3: Globally Unique Identifiers



*species* link



- Same record twice?
- How do we track provenance?

- Architecture not bound to LSID
- Other GUIDs are available

## Leg 3: Globally Unique Identifiers



*species* link



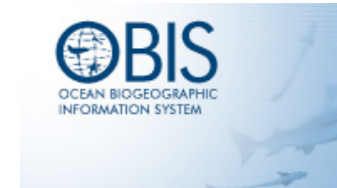
- Same record twice?
- How do we track provenance?
- How do we integrate objects that refer to the same thing?

- Architecture not bound to LSID
- Other GUIDs are available

## Leg 3: Globally Unique Identifiers



*species* link



- Same record twice?
- How do we track provenance?
- How do we integrate objects that refer to the same thing?
- LSID chosen technology

- Architecture not bound to LSID
- Other GUIDs are available

## An Example

