

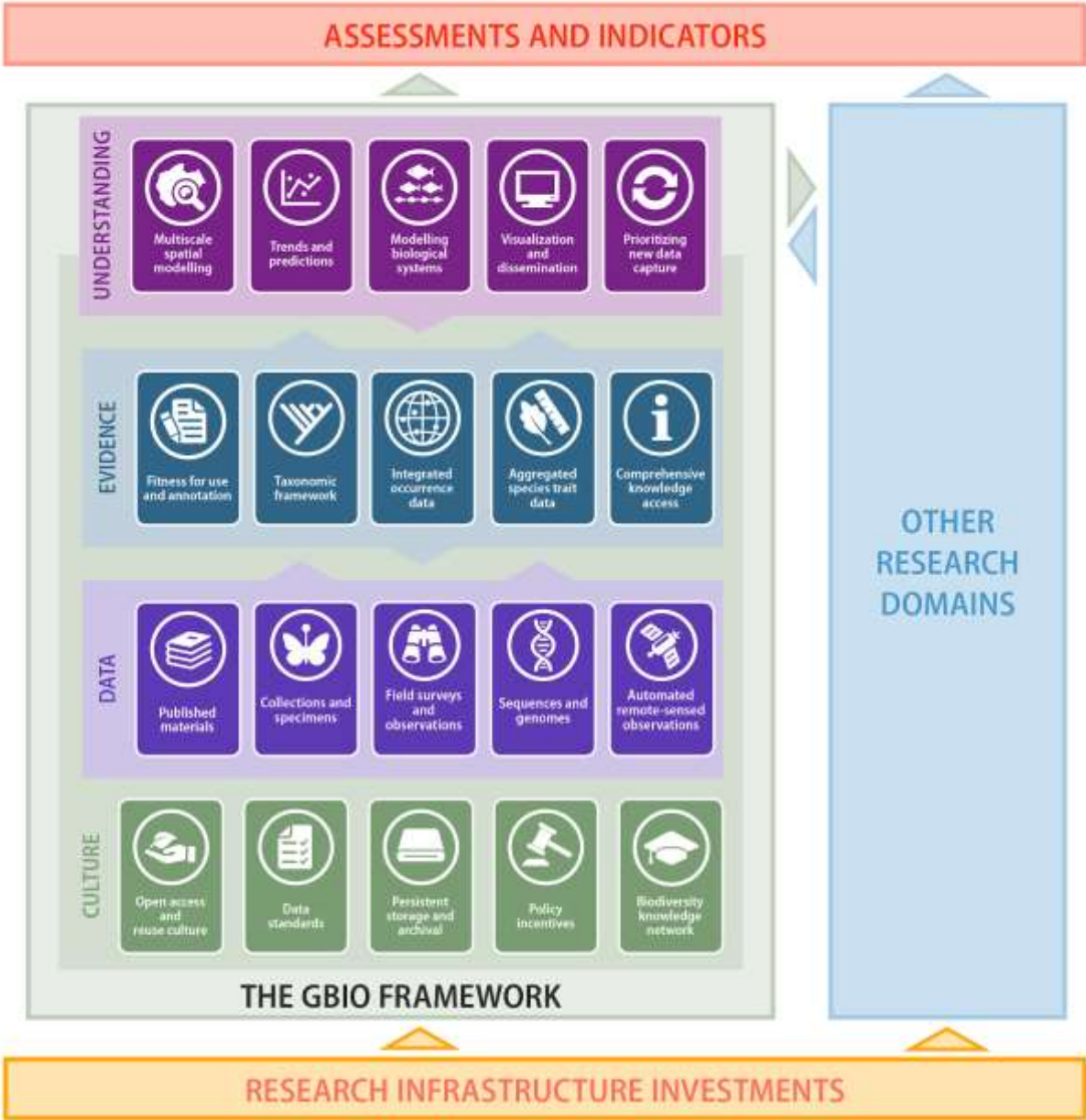
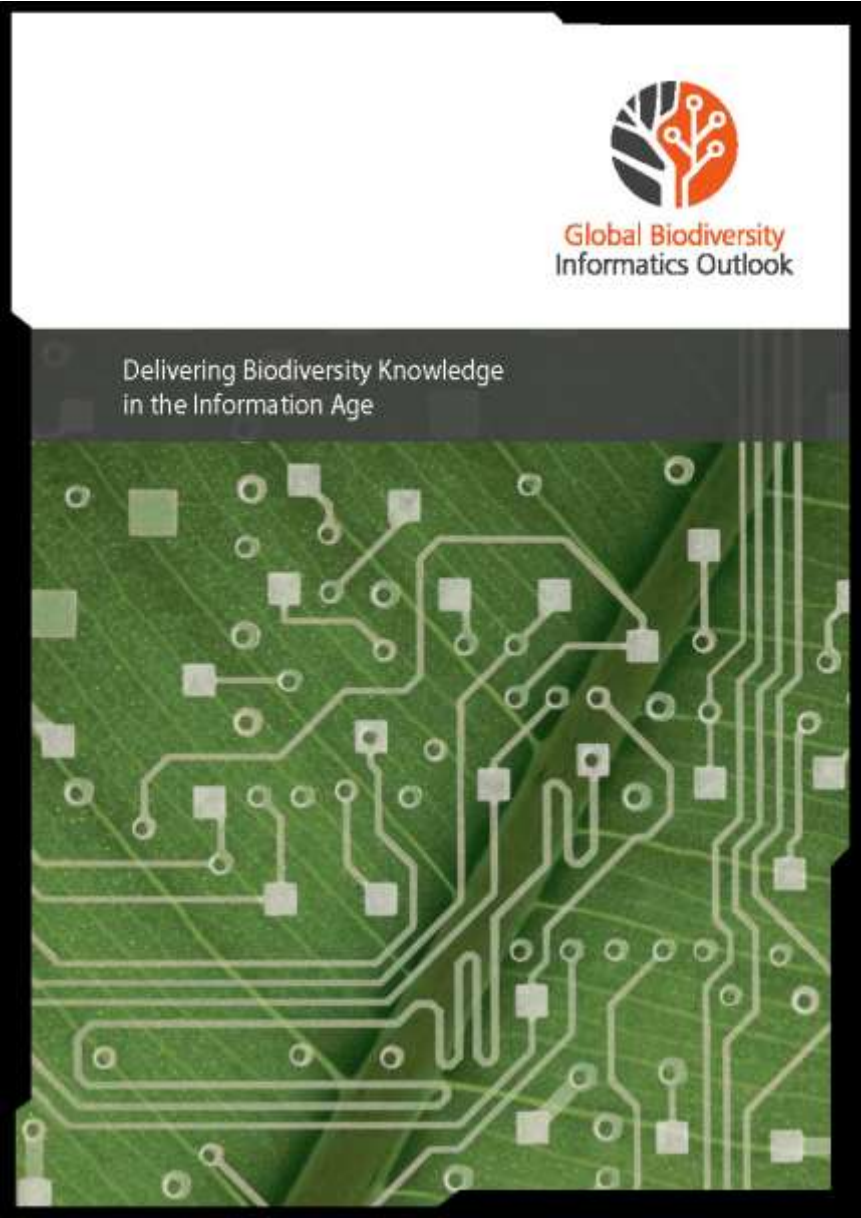


Linked Projects and Horizon Scanning February 2019

Donald Hobern, GBIF Executive Secretary

Macropus robustus Gould, 1841, subspecies *erubescens*, Euro, Denham, WA, Australia, 10 January 2018

GBIO framework



GBIC2 – ambition for *alliance for biodiversity knowledge*

Support for science and evidence-based planning

1. To deliver biodiversity knowledge and understanding in forms which support critical research requirements and enable biodiversity to be correctly measured and valued for societal goals
2. To serve as the foundation for basic research in biodiversity and information science that serves human understanding of the functioning and state of natural systems
3. To provide a platform for continuous growth in understanding of biodiversity by preserving, building on and improving existing knowledge

Support for open data and open science

4. To remove barriers to free and open sharing of data and to the adoption of FAIR data principles for biodiversity data
5. To describe all data resources with rich metadata that supports present and future reuse
6. To ensure all data resources are preserved in stable and persistent trusted repositories
7. To enable collaborative curation, annotation and improvement of all data by any relevant experts and expert communities
8. To enable all contributors of knowledge or expertise to have their contributions fully recorded, acknowledged and credited
9. To track the provenance and attribution of all sources of information

Support for highly-connected biodiversity data

10. To mobilize structured digital representations of historical data sources, including museum collections and literature
11. To ensure that all new observations and measurements are accessible in structured digital representations as rapidly as possible after capture

10. To enable the combination, querying and analysis of different classes of biodiversity information (distribution, traits, genes, etc.) as an interconnected whole
11. To work with other research communities and infrastructures to achieve interoperability with earth observations, social science data and other resources

Support for international collaboration

14. To address capacity needs around biodiversity informatics in all regions and in all sectors
15. To secure funding to maintain services and component that the community recognizes as critical elements within a distributed knowledge infrastructure
16. To develop flexible, collaborative approaches to designing, building and sustaining all components of this distributed knowledge infrastructure
17. To enable stakeholders in every country and region to adopt and benefit from advances in infrastructure, tools, services, practices and capacity
18. To enable full participation of and collaboration with all stakeholder groups in all regions at all stages, from data generation to analysis and application
19. To enable data repatriation that supports science and policy-making in all countries and regions
20. To ensure effective access to, and use of, data at every scale—global, regional, national and local
21. To acknowledge and support the role of regional, national and local investments as critical and effective components within a global solution
22. To overcome barriers to data sharing or use arising from language or culture
23. To support the practical implementation of international agreements with reference to access and benefit sharing

GA4GH – example of a global alliance



Global Alliance
for Genomics & Health
Collaborate. Innovate. Accelerate.

- [ABOUT US](#)
- [HOW WE WORK](#)
- [GA4GH TOOLKIT](#)
- [NEWS & EVENTS](#)
- [COMMUNITY](#)
- [CONTACT US](#)

Enabling responsible genomic data sharing for the benefit of human health

The Global Alliance for Genomics and Health (GA4GH) is a policy-framing and technical standards-setting organization, seeking to enable responsible genomic data sharing within a **human rights framework**

[Genomic Data Toolkit](#) →

[Regulatory & Ethics Toolkit](#) →

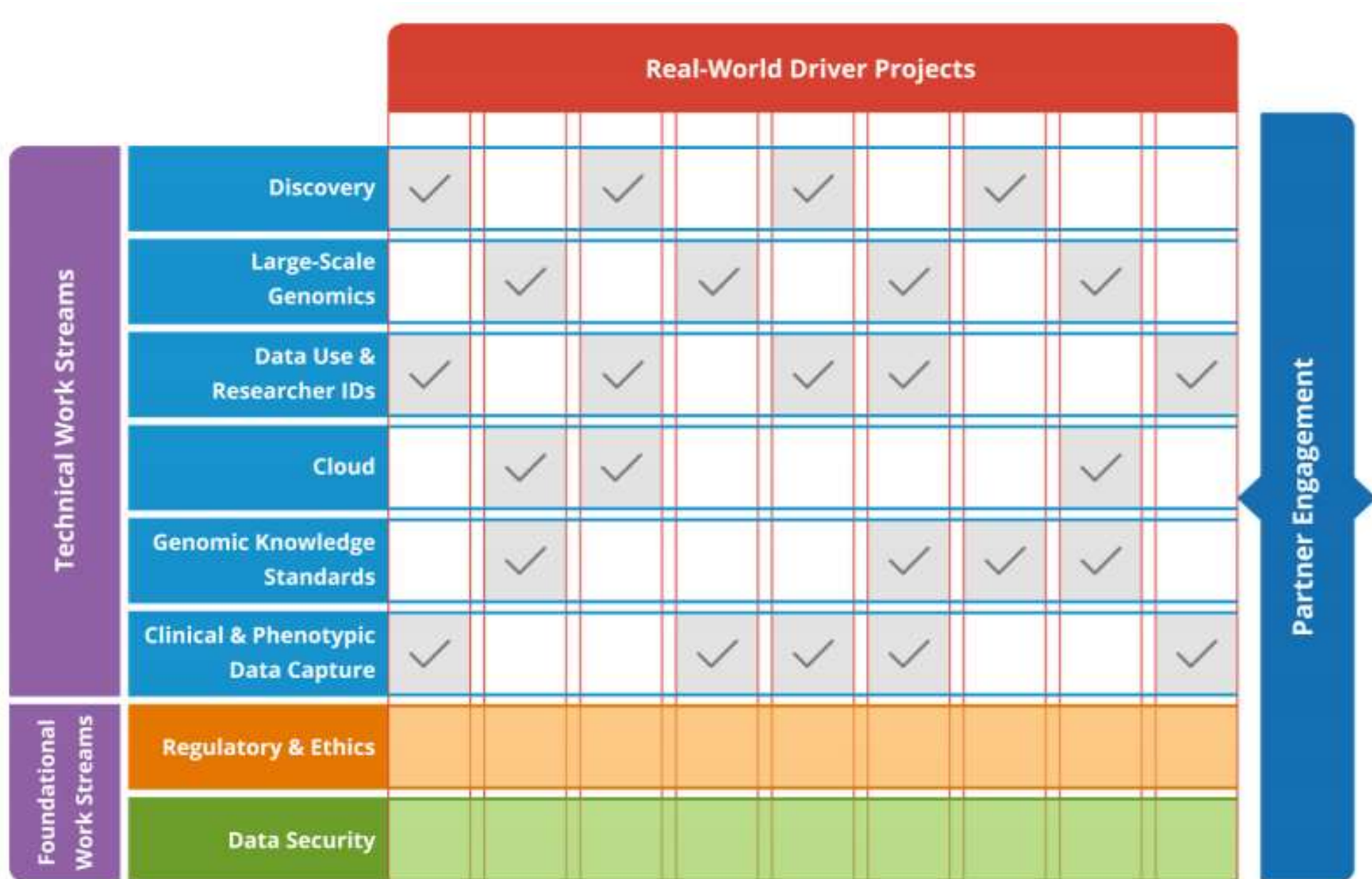
[Data Security Toolkit](#) →

[VIEW OUR LEADERSHIP](#)

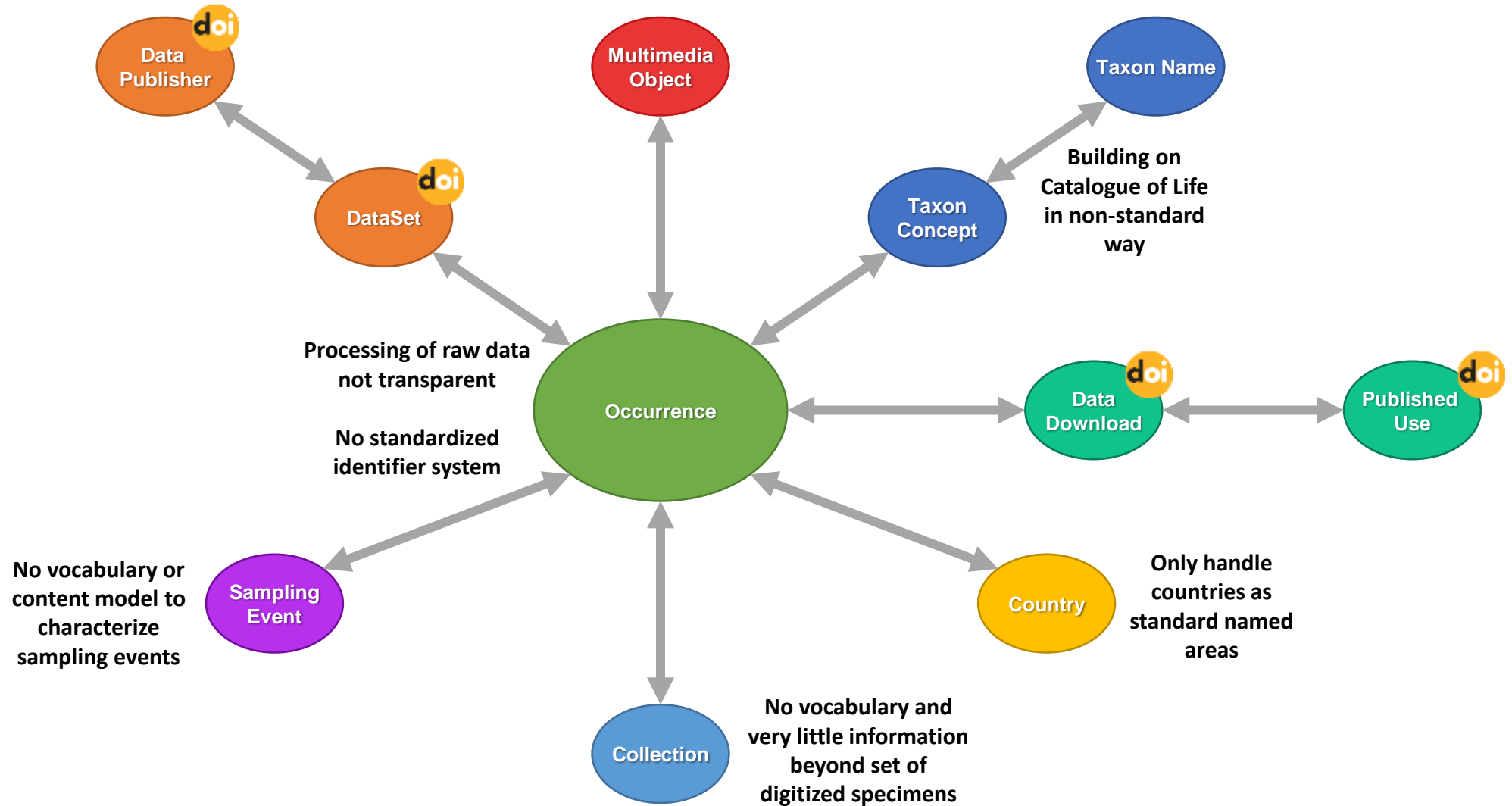
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[BECOME A MEMBER](#)

GA4GH – work streams and driver projects

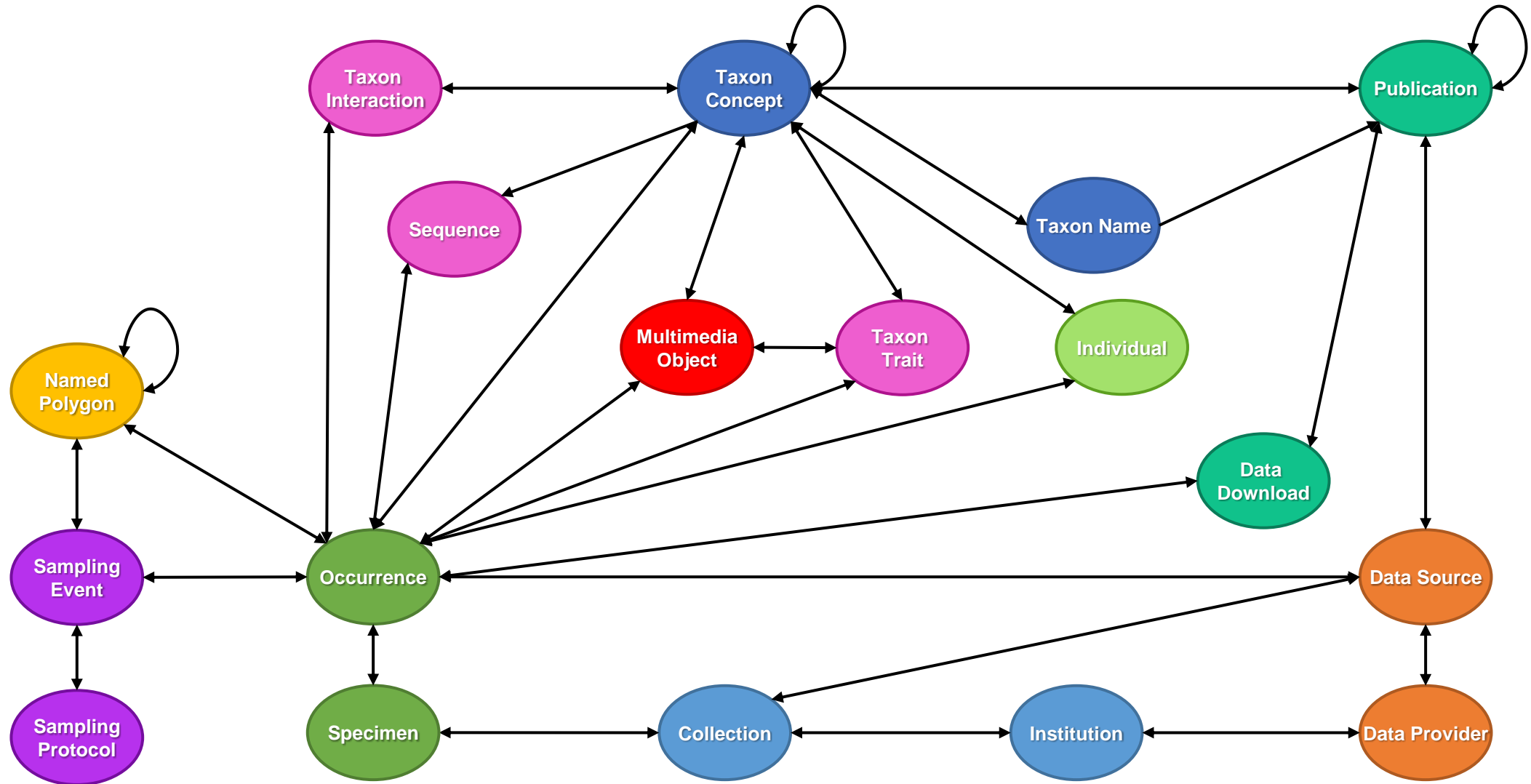


GBIF information model today



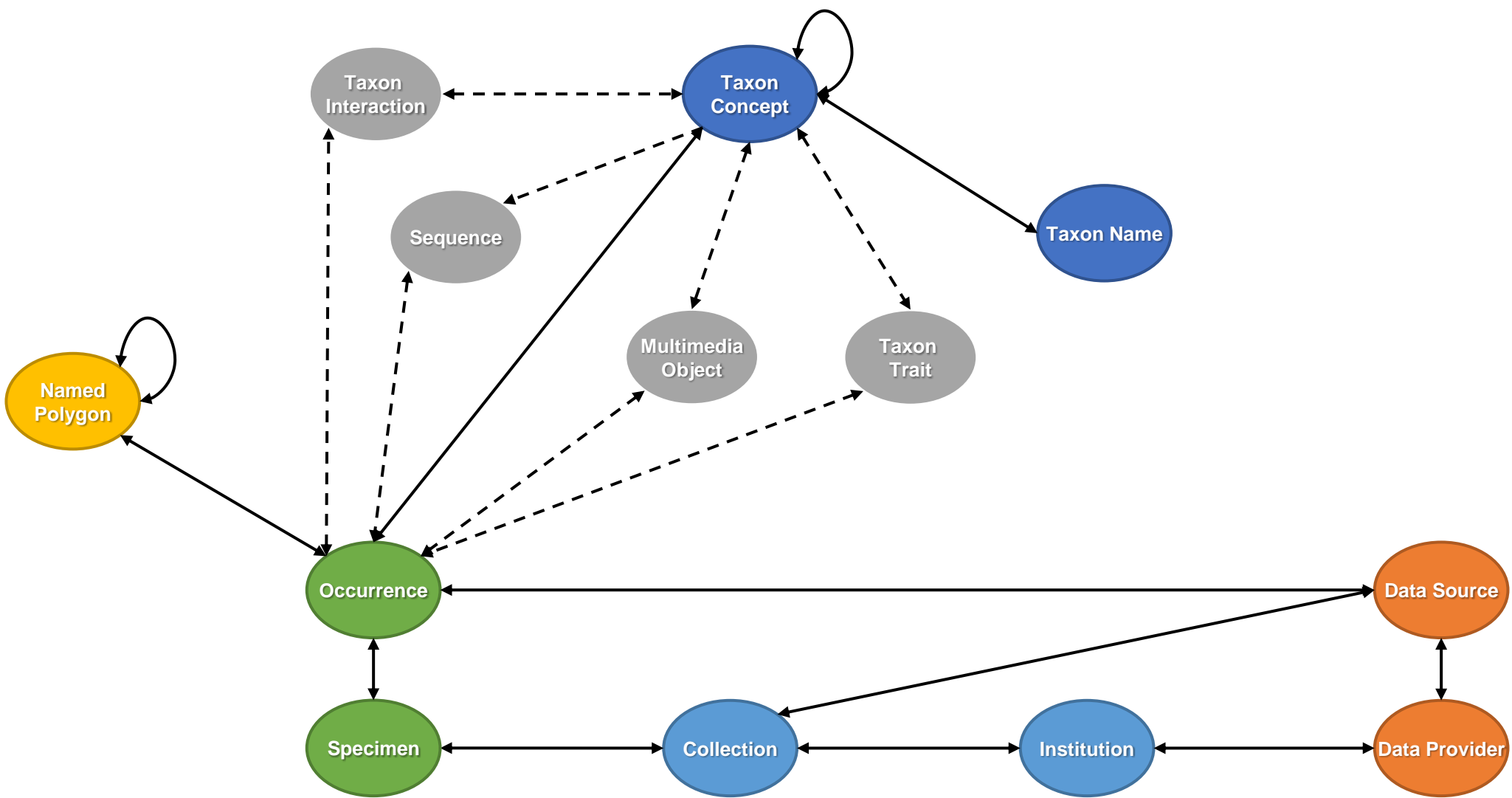
- Model readily supports massive data integration but is limited by its simplicity
- In particular, poor at accommodating rich information outside core

Partial outline of a broader information model for biodiversity data

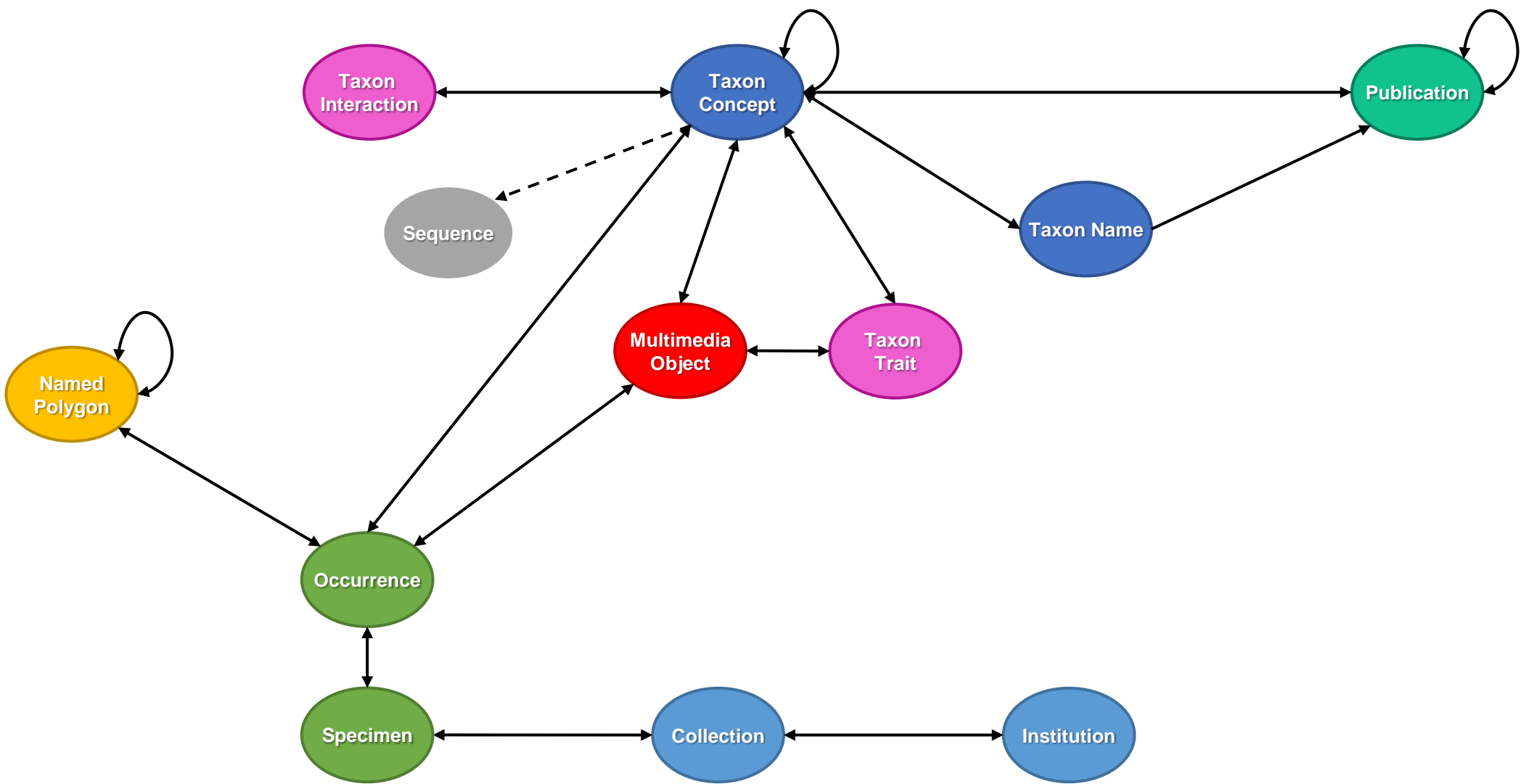


- **Many more connections and opportunities to enrich data**
- **Opportunities to explore from any point**

Natural history specimen data (example)

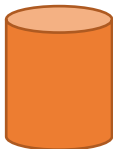


Taxonomic revision or monograph (example)



Future biodiversity data infrastructure

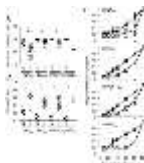
Collection Management System



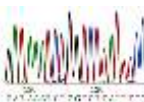
Taxonomic Treatment



Field Survey



Metagenomics Study



Animal Tracking Data



Satellite Imagery



Registered Data Sets



Data Refinement Pipelines

Taxon Name Pipeline



Occurrence Pipeline



Multimedia Object Pipeline



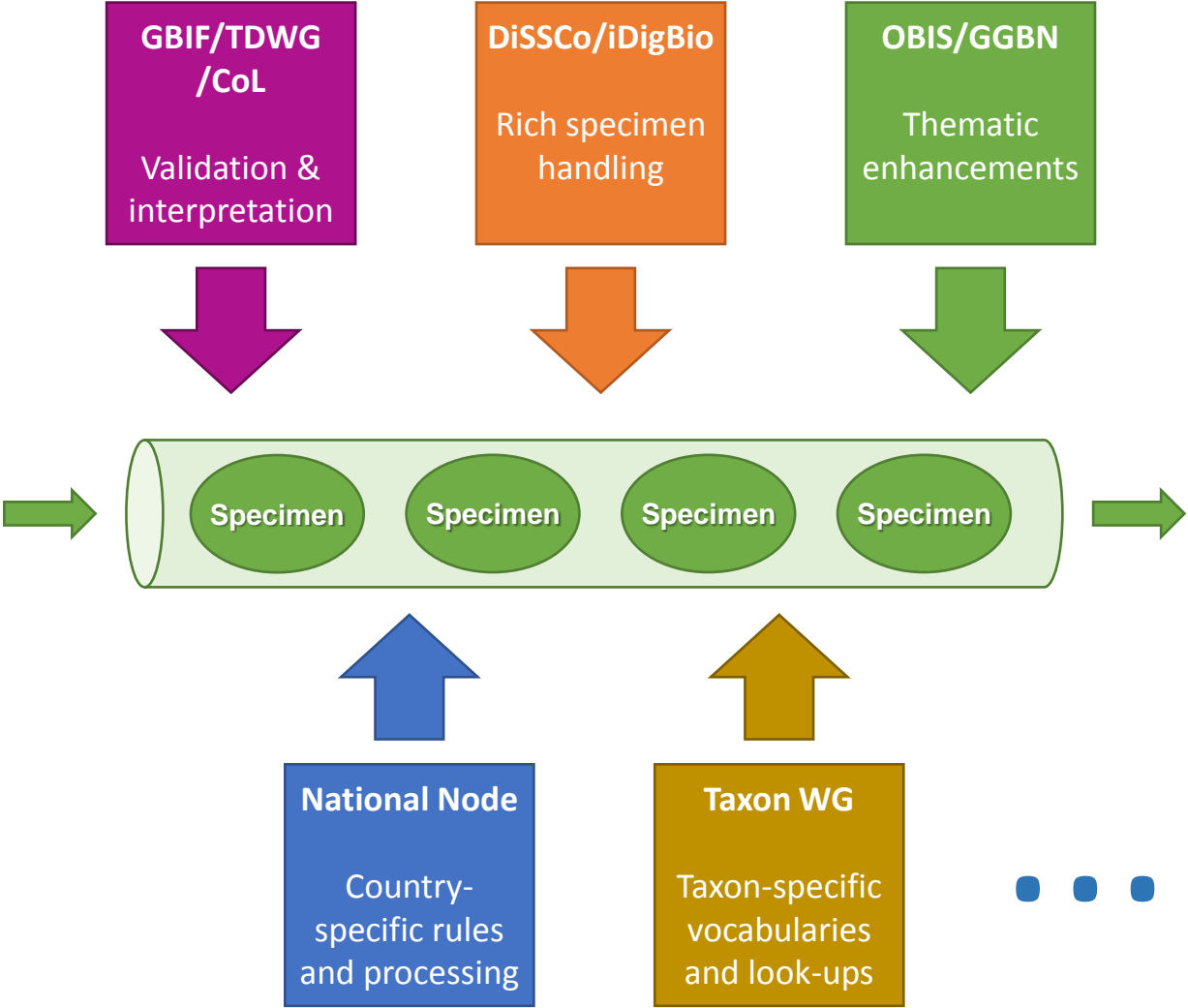
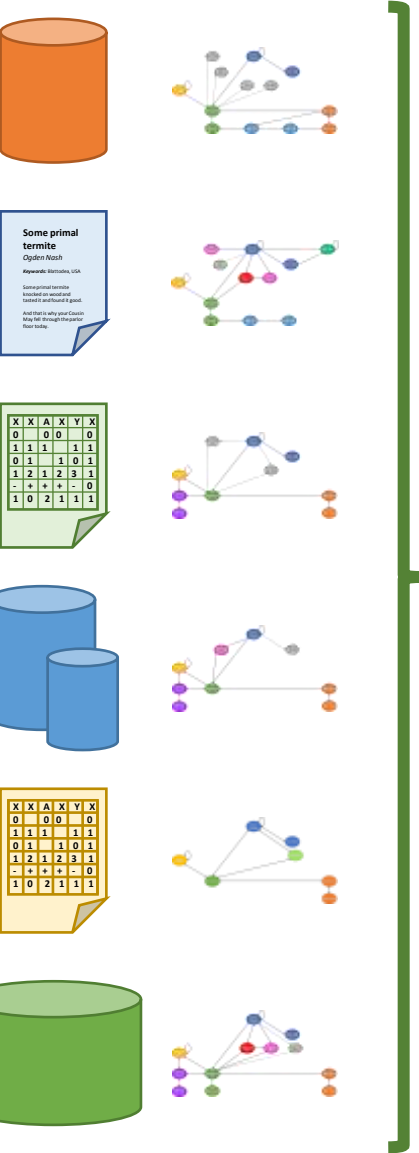
Standardized Identifiers
Normalized Values
Enriched Linkages

Consolidated Data Product



Interconnected Knowledgebase
Replicated Data Stores

Data refinement

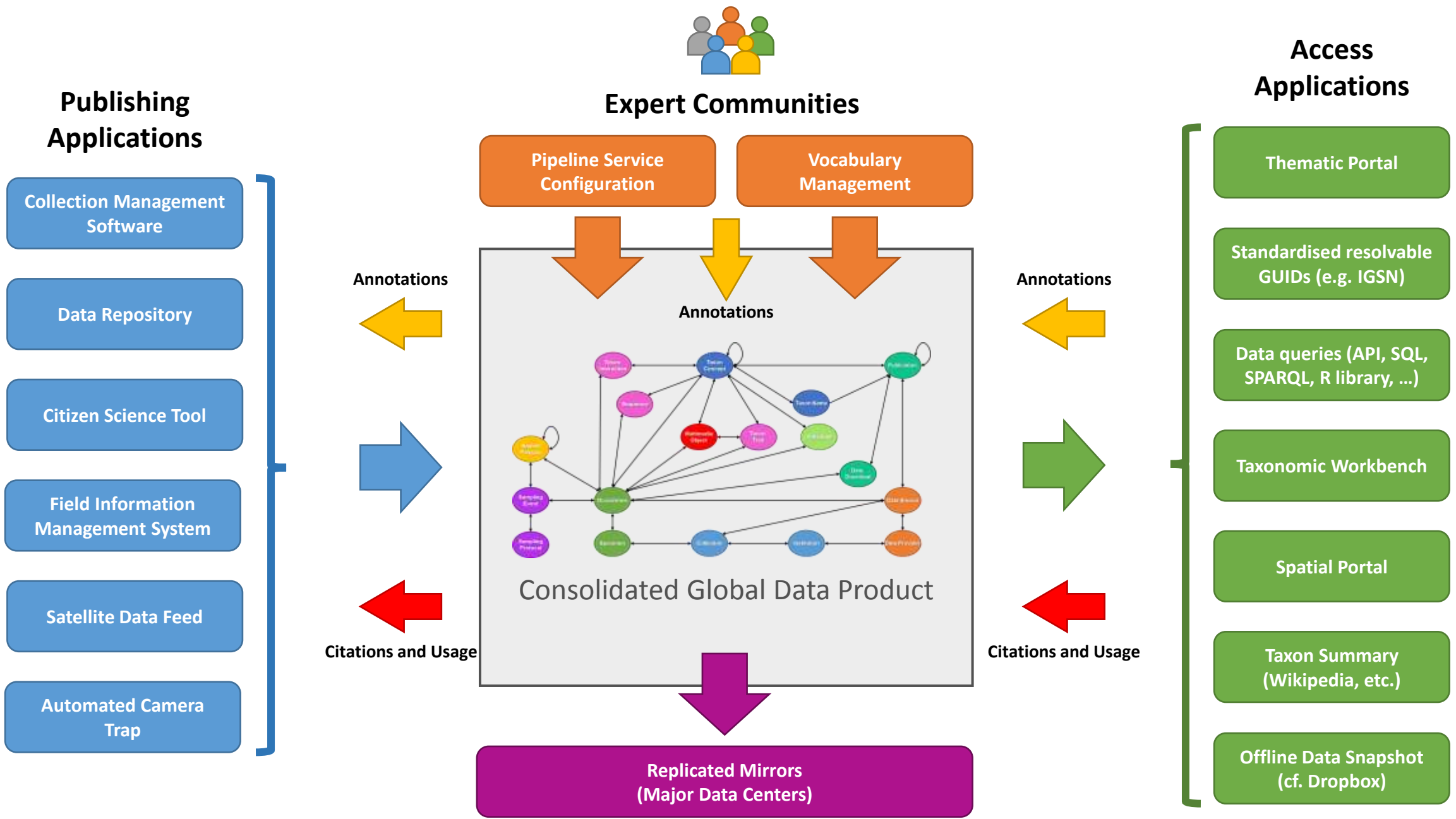


Extensible service-based processing pipeline

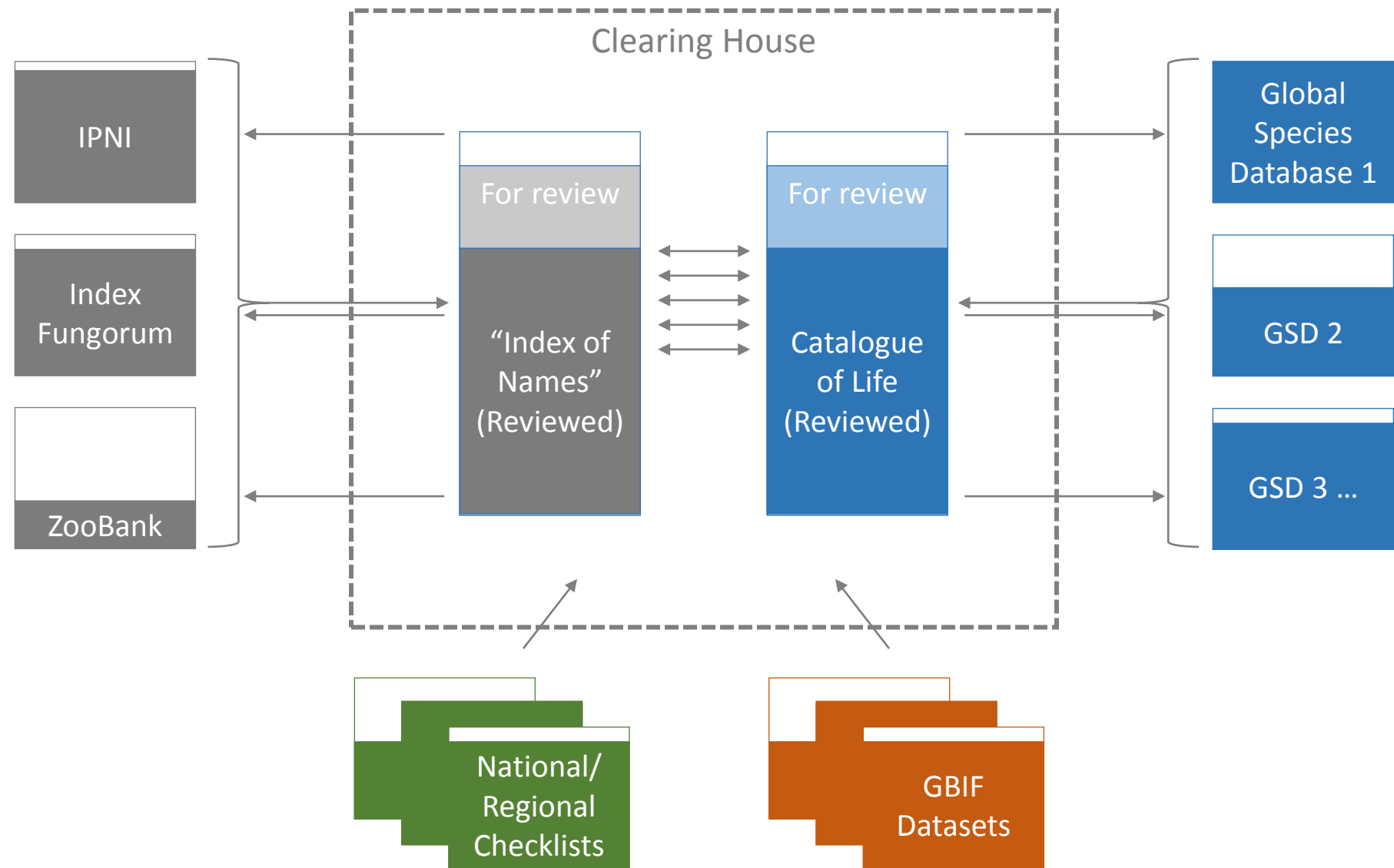
Specimen record information model

- Stable global identifier
- Version history
- Access to original data record
- Identifiers for related data objects
 - Collection, Taxon Concept, Multimedia, Sampling Event, etc.
- Normalized Darwin Core, e.g.:
 - Basis of record
 - Validated coordinates
 - Catalogue of Life concept
 - Country, state/province and county
- Country-based Extensions, e.g.:
 - National species list
 - Environmental properties
 - Gazetteer lookup
- Taxon-/Theme-based Extensions, e.g.:
 - TCN-style taxon extensions
 - Herbarium-specific elements
 - Paleontological elements
 - GRIIS introduction status
 - WDPA area(s)
 - OBIS ocean variables
 - GGBN sample metadata
- Annotation management


The big picture



Catalogue of Life Plus project



Catalogue of collections – GRBio/GRSciColl

 GBIF Registry

Organizations

Datasets

Installations

Collections

Search collections

Deleted collections

Institutions

GRBio staff

Nodes

Monitoring

Collections / Colección Zoológica del Bioparque Ukumari

Colección Zoológica del Bioparque Ukumari

Collection

Contacts (1)

Identifiers (1)

Tags (0)

View on GBIF.org

Collection details

Name	Colección Zoológica del Bioparque Ukumari
Description	Colección zoológica del Bioparque Ukumari de Pereira
Content Types	Biological - living organisms
Code	UKUZ
Homepage	http://www.ukumari.co
Catalog URL	No information
API URL	No information
Institution	Bioparque Ukumari
Preservation type	No information
Accession status	Institutional
Active	Yes
Personal collection	No
Digital Object Identifier	No information
Mailing address ⓘ	
Address	nvarela@ukumari.co , nestorvarelaa@gmail.com
City	Pereira
Province	Risaralda

IGSN resolution model

Resolve IGSN
WXYZ001AAG996547
<http://igsn.org/WXYZ001AAG996547>

Resolve IGSN
IEABC000001
<http://igsn.org/IEABC000001>

Resolve IGSN
IBGYJ48M9W
<http://igsn.org/IBGYJ48M9W>

