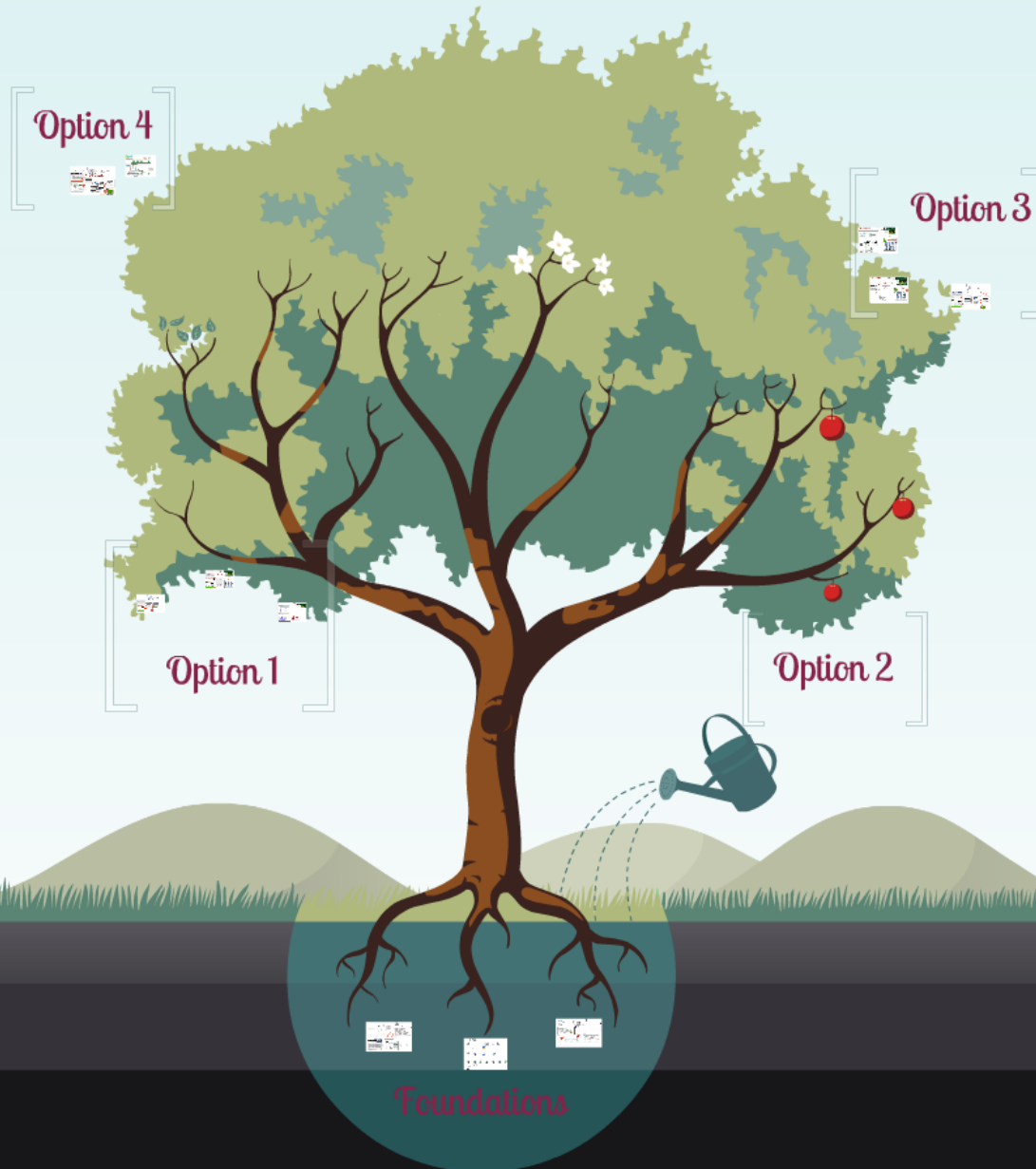


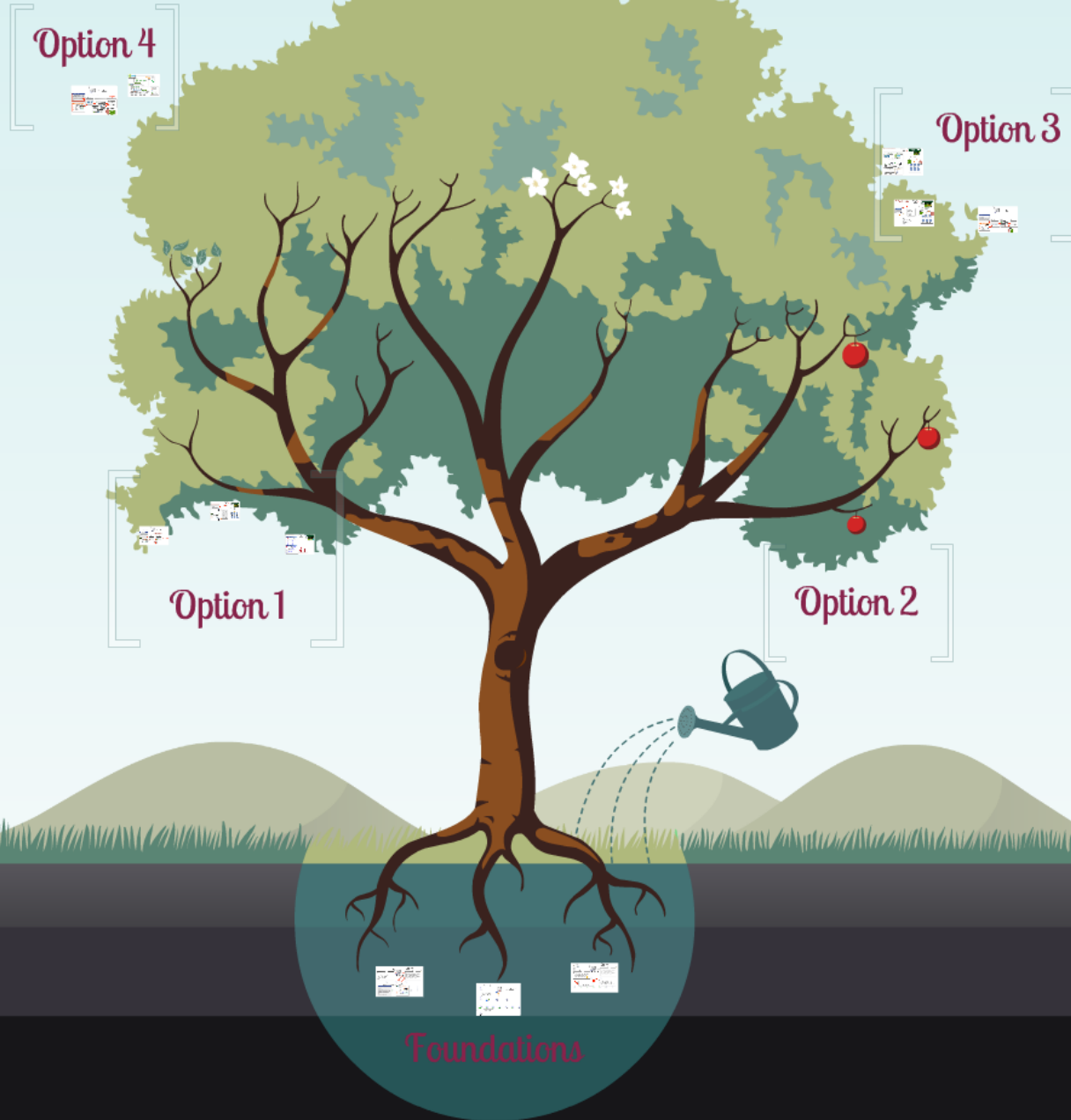
GHASP
Architecture

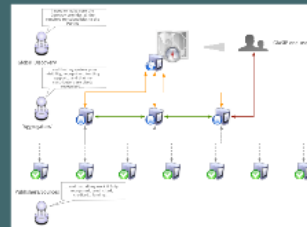
Recommendations



Recommendations

GIASP
Architecture





Foundations

I need to make sure the Gateway provides all the required functionalities to the Parties



Global Discovery

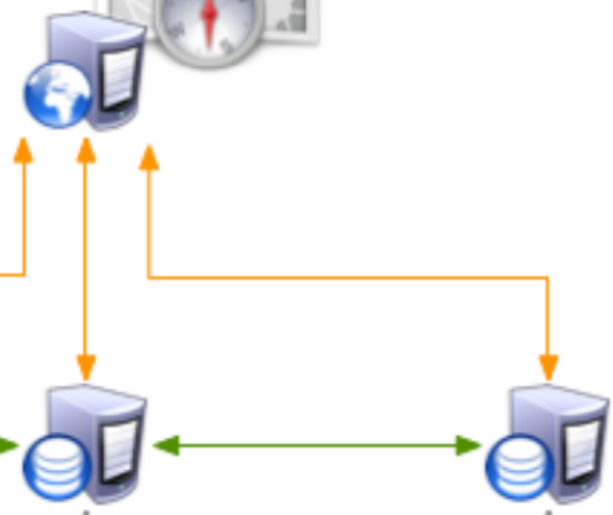
... and that my system gains visibility, recognition, funding support... and that my contributors are cited/ recognized...



'Aggregators'



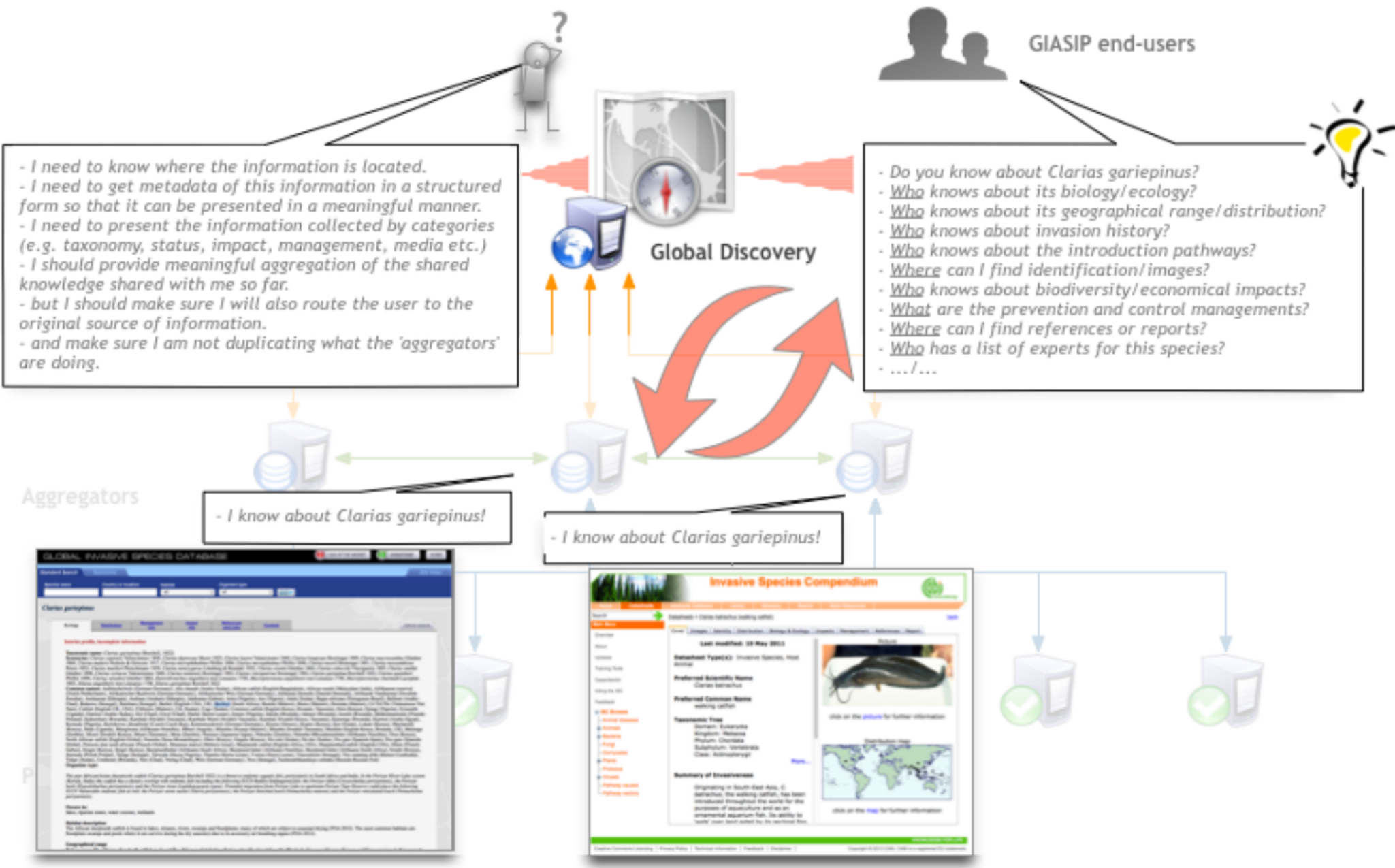
GIASIP end-users



Publishers/Sources

... and that all my work is fully recognised, used, cited, credited... funding...





- I need to know where the information is located.
 - I need to get metadata of this information in a structured form so that it can be presented in a meaningful manner.
 - I need to present the information collected by categories (e.g. taxonomy, status, impact, management, media etc.)
 - I should provide meaningful aggregation of the shared knowledge shared with me so far.
 - but I should make sure I will also route the user to the original source of information.
 - and make sure I am not duplicating what the 'aggregators' are doing.

- Do you know about *Clarias gariepinus*?
 - Who knows about its biology/ecology?
 - Who knows about its geographical range/distribution?
 - Who knows about invasion history?
 - Who knows about the introduction pathways?
 - Where can I find identification/images?
 - Who knows about biodiversity/economical impacts?
 - What are the prevention and control managements?
 - Where can I find references or reports?
 - Who has a list of experts for this species?
 - .../...

- I know about *Clarias gariepinus*!

- I know about *Clarias gariepinus*!





Partnership Agreement

Agreement on:

- Roles of Gateway vs. Aggregators
- Features required in the Gateway vs. Linking to sources
- Types of information to publish to the Gateway
- IPR associated with the information published
- Credit and citation of original sources & aggregators
- Monitoring of uses and new user needs
- Assessment of impacts over time
- etc...



Global Discovery



GIASIP end-users



- Do you know about *Clarias gariepinus*?
- Who knows about its biology/ecology?
- Who knows about its geographical range/distribution?
- Who knows about invasion history?
- Who knows about the introduction pathways?
- Where can I find identification/images?
- Who knows about biodiversity/economical impacts?
- What are the prevention and control managements?
- Where can I find references or reports?
- Who has a list of experts for this species?
- .../...

Aggregators

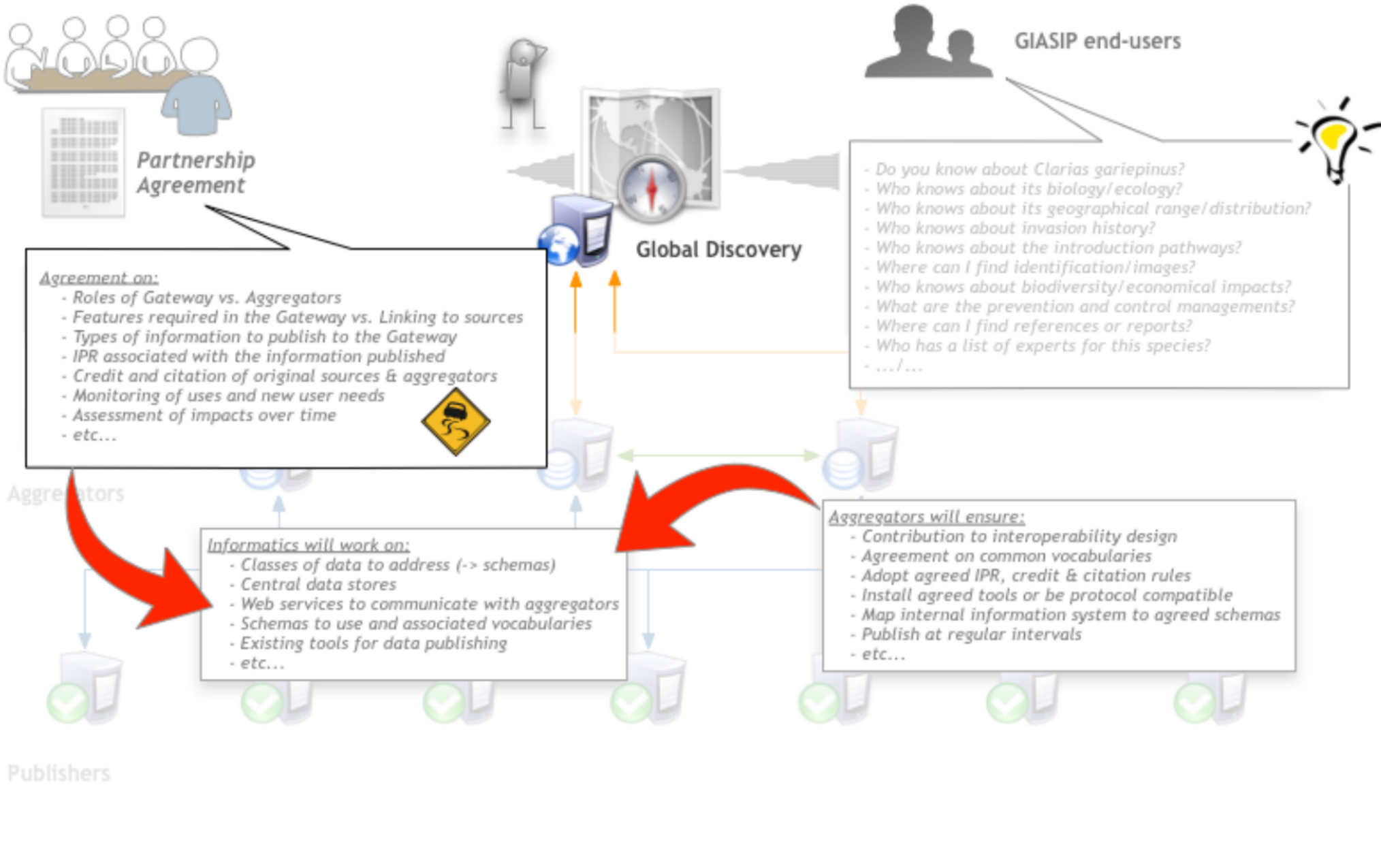
Informatics will work on:

- Classes of data to address (-> schemas)
- Central data stores
- Web services to communicate with aggregators
- Schemas to use and associated vocabularies
- Existing tools for data publishing
- etc...

Aggregators will ensure:

- Contribution to interoperability design
- Agreement on common vocabularies
- Adopt agreed IPR, credit & citation rules
- Install agreed tools or be protocol compatible
- Map internal information system to agreed schemas
- Publish at regular intervals
- etc...

Publishers





Option 1

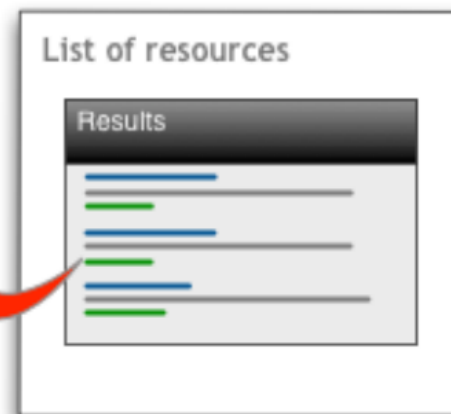
What are the options?



GIASIP end-users



Option 1: A collection of hyperlinks



← *Clarias gariepinus* ?



Option 1: A collection of hyperlinks

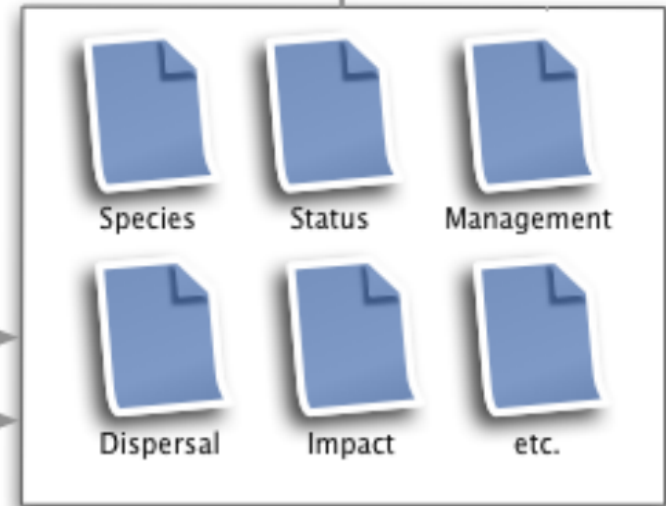
GIASIP end-users



Impact
species A = http://...
species C = http://...
species E = http://...
species K = http://...
species M = http://...



Impact
species A = http://...
species B = http://...
species D = http://...
species K = http://...
species M = http://...

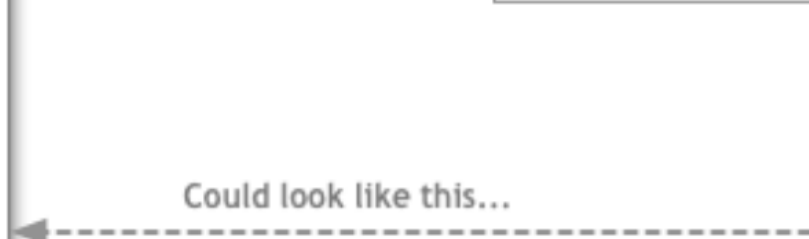


Option 1: A collection of hyperlinks

GIASIP end-users

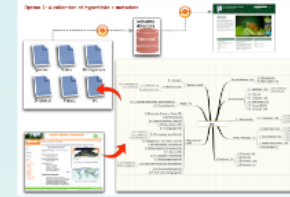


Could look like this...





Option 1



Option 2

What are the options?

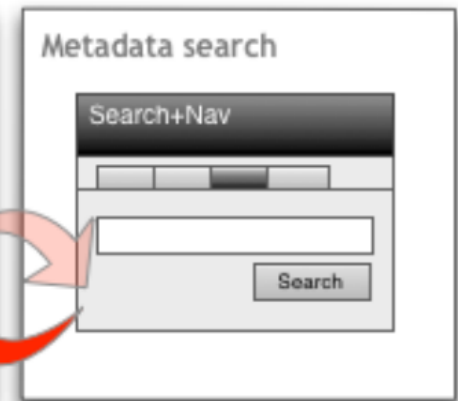
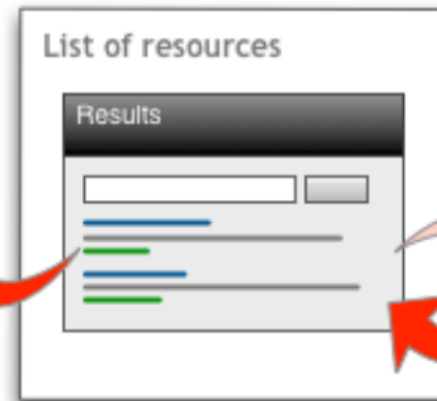
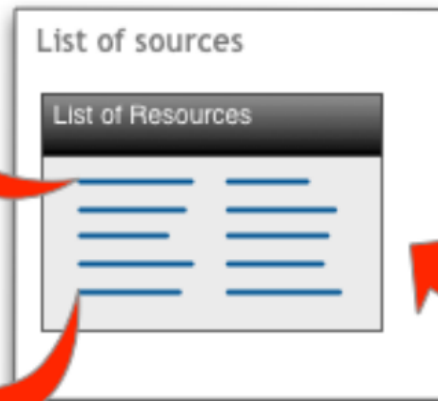


GIASIP end-users



Option 2: A collection of hyperlinks + metadata

Clarias gariepinus ?



Option 2: A collection of hyperlinks + metadata

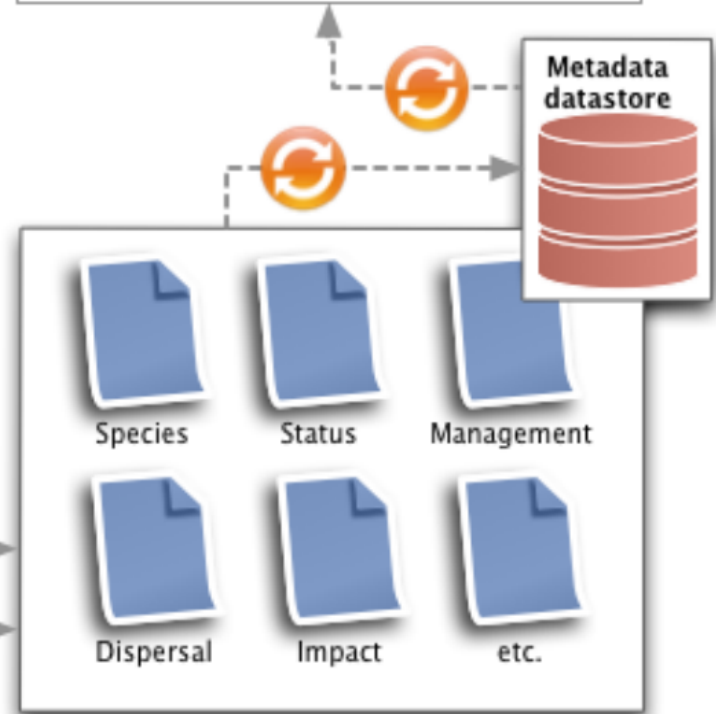
GIASIP end-users



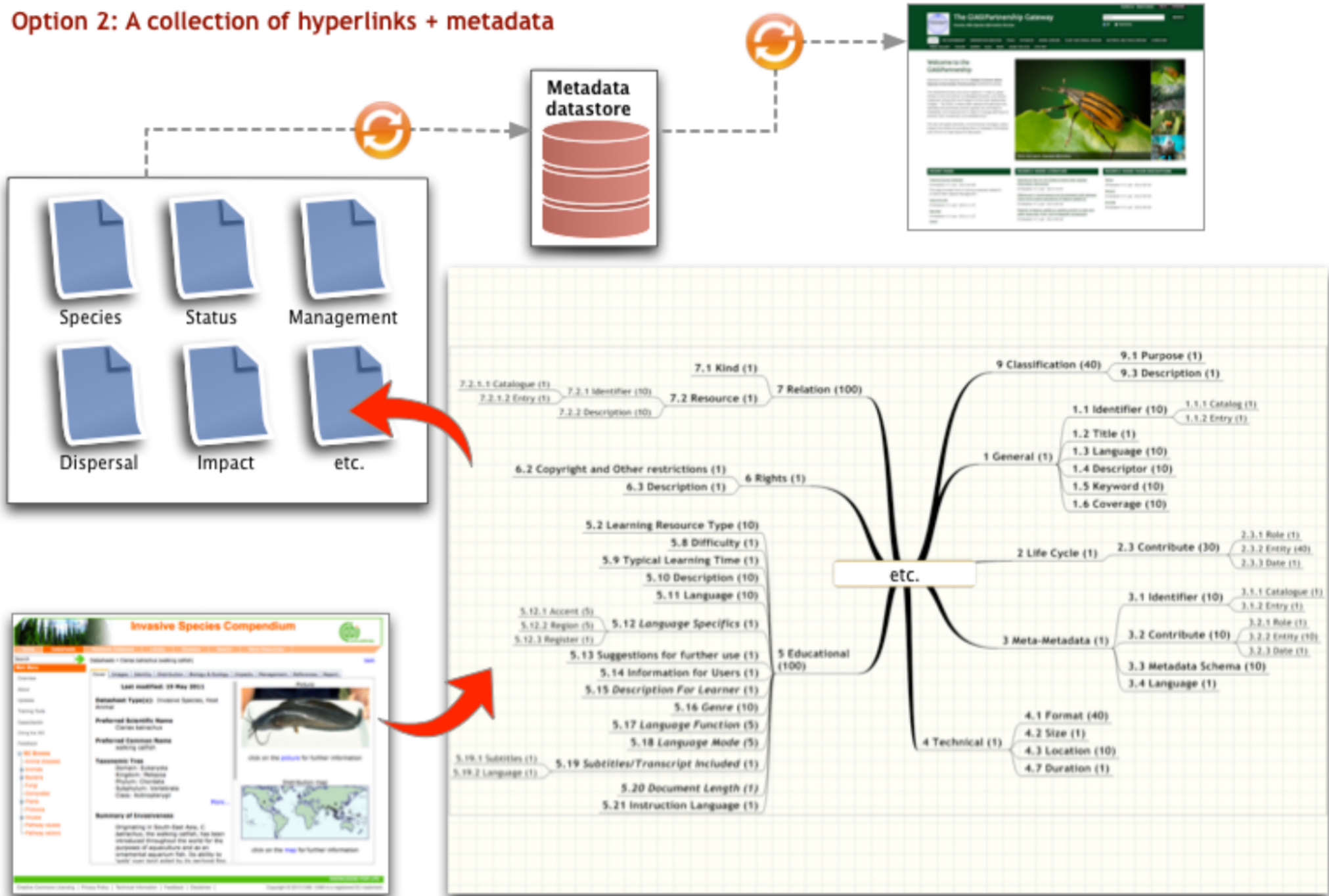
(for each)

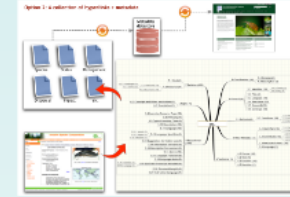
Species A

URL = http://...
Title = ...text...
Abstract = ...text...
Updated = DD/MM/YYYY
Type = ...Web/PDF/Pict...
Access = ...Public...
Authors = ... X, Y, Z...
Comments = ...



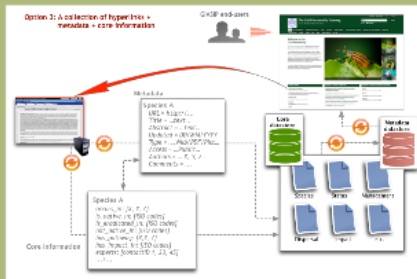
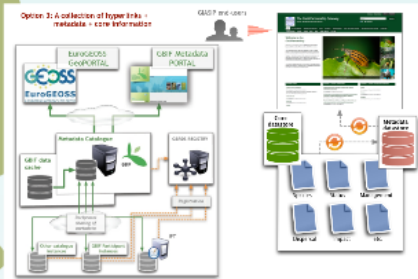
Option 2: A collection of hyperlinks + metadata





Option 2

Option 3



What are the options?

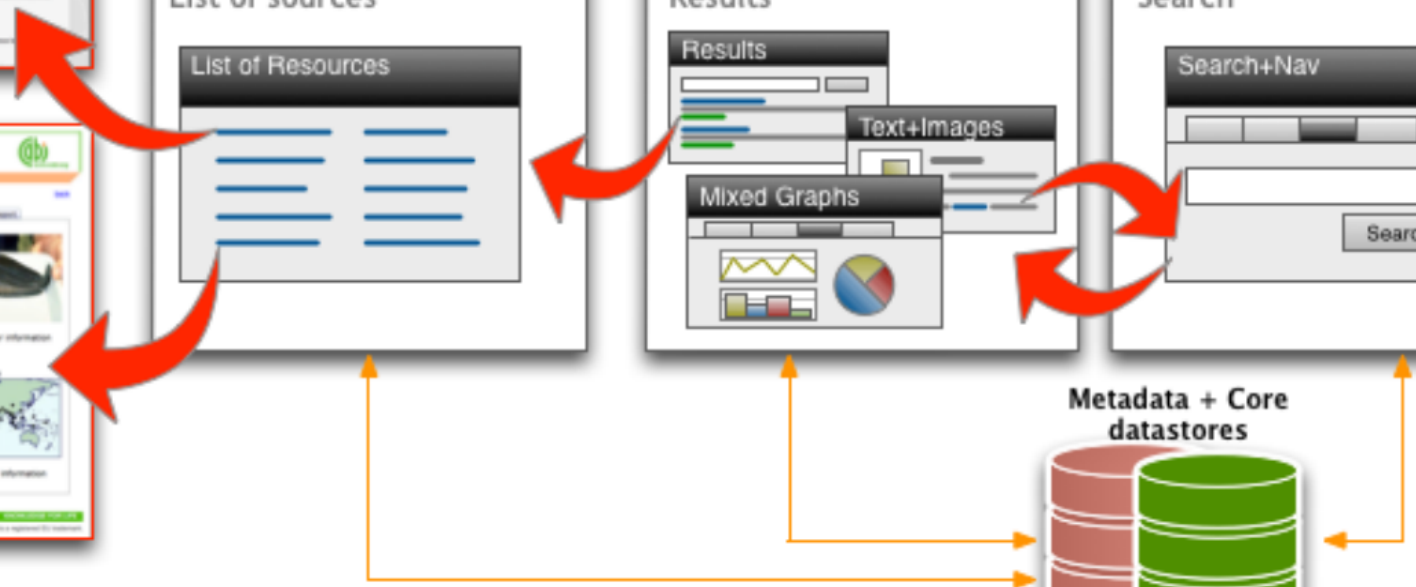
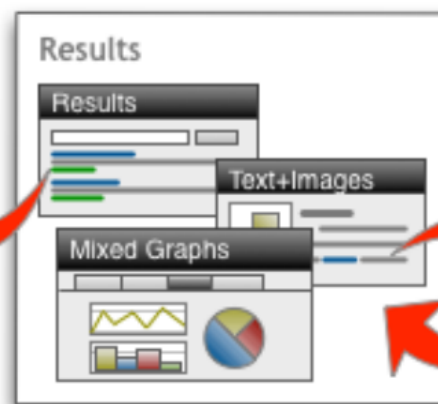


GIASIP end-users



Option 3: A collection of hyperlinks + metadata + core information

Clarias gariepinus ?



Option 3: A collection of hyperlinks + metadata + core information

GIASIP end-users

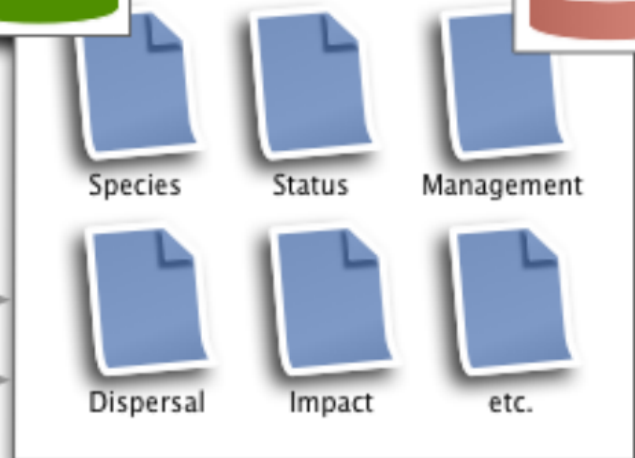


Metadata

Species A
URL = http://...
Title = ...text...
Abstract = ...text...
Updated = DD/MM/YYYY
Type = ...Web/PDF/Pict...
Access = ...Public...
Authors = ... X, Y, Z...
Comments = ...

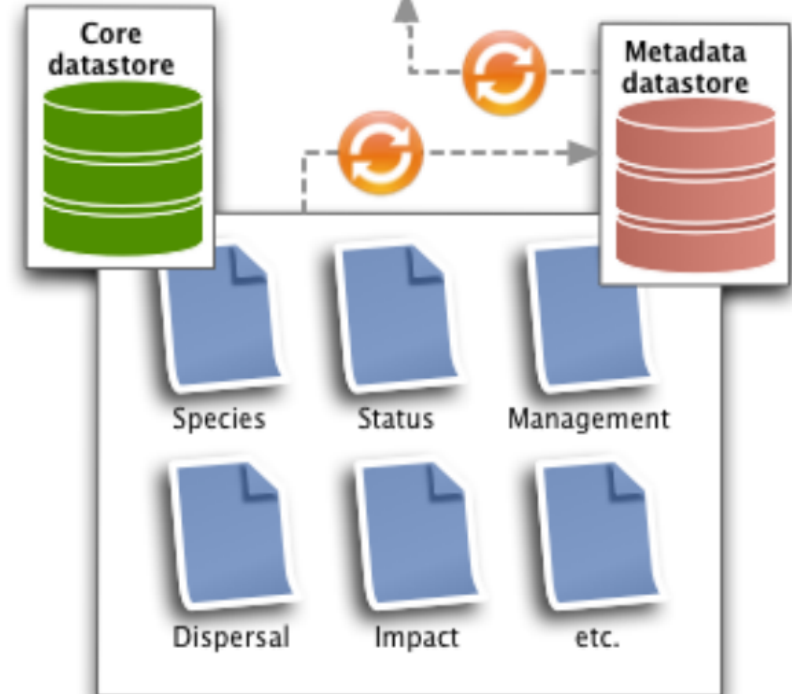
Species A
occurs_in: [X, Y, Z]
is_native_in: [ISO codes]
is_eradicated_in: [ISO codes]
not_native_in: [ISO codes]
has_pathway: [X,Y, Z]
has_impact_in: [ISO codes]
experts: [contactID 1, 23, 45]
.../...

Core information

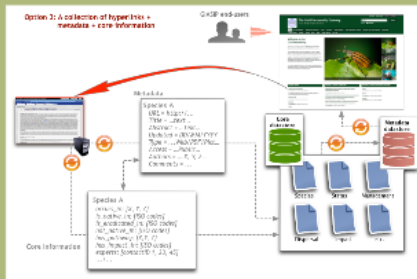
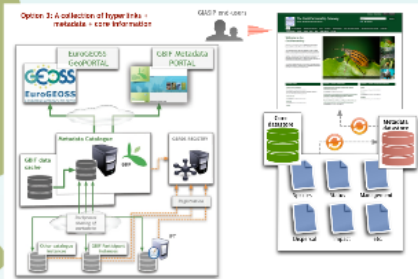


Option 3: A collection of hyperlinks + metadata + core information

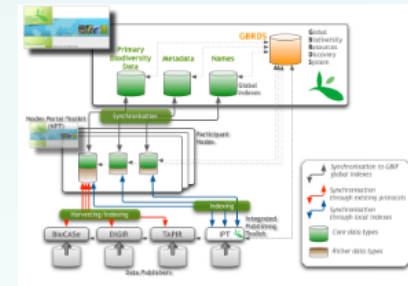
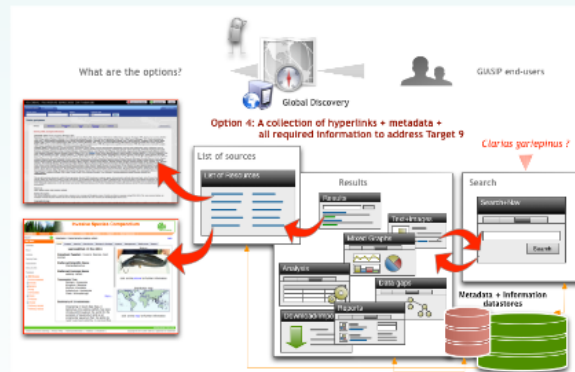
GIASIP end-users



Option 3



Option 4



What are the options?



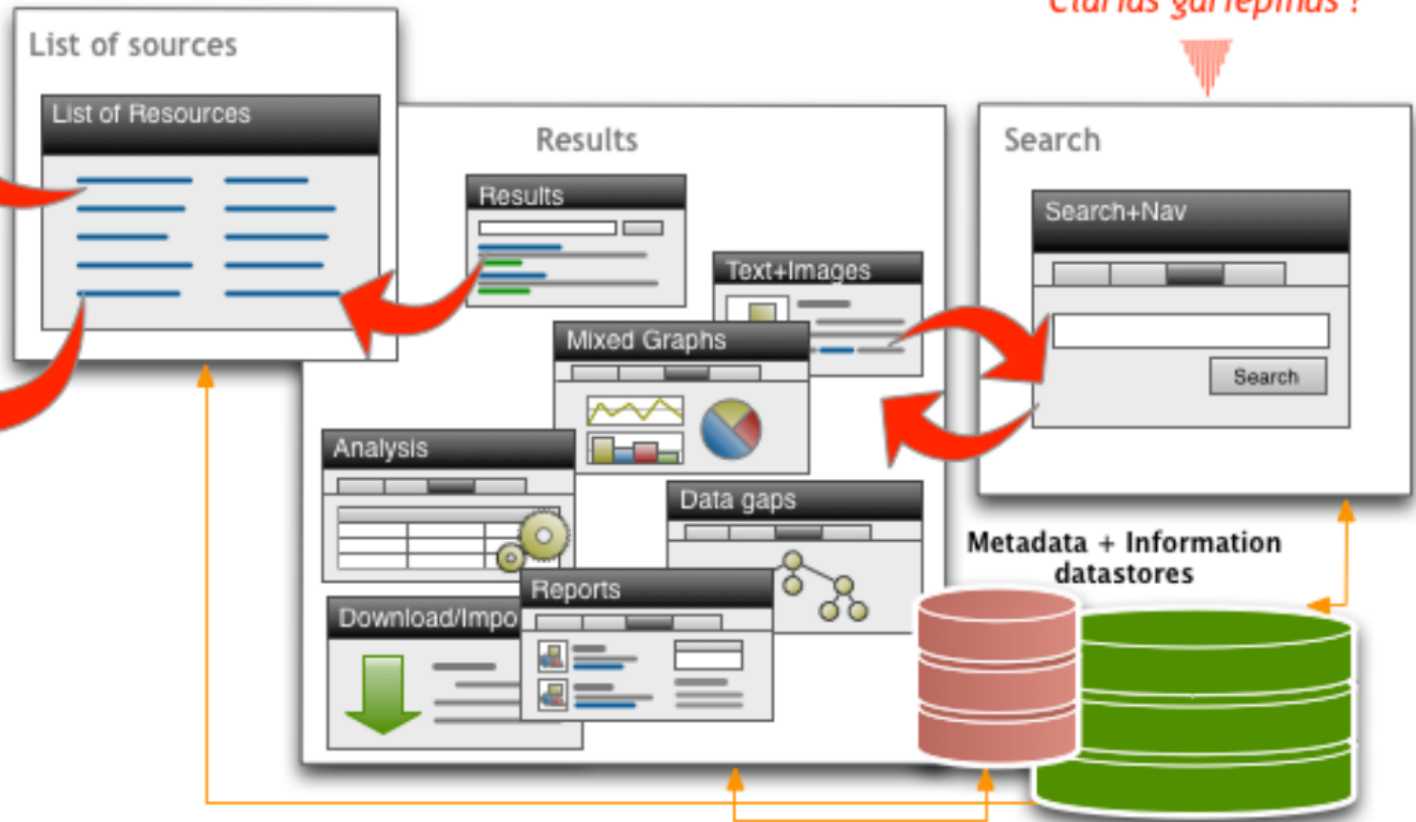
Global Discovery

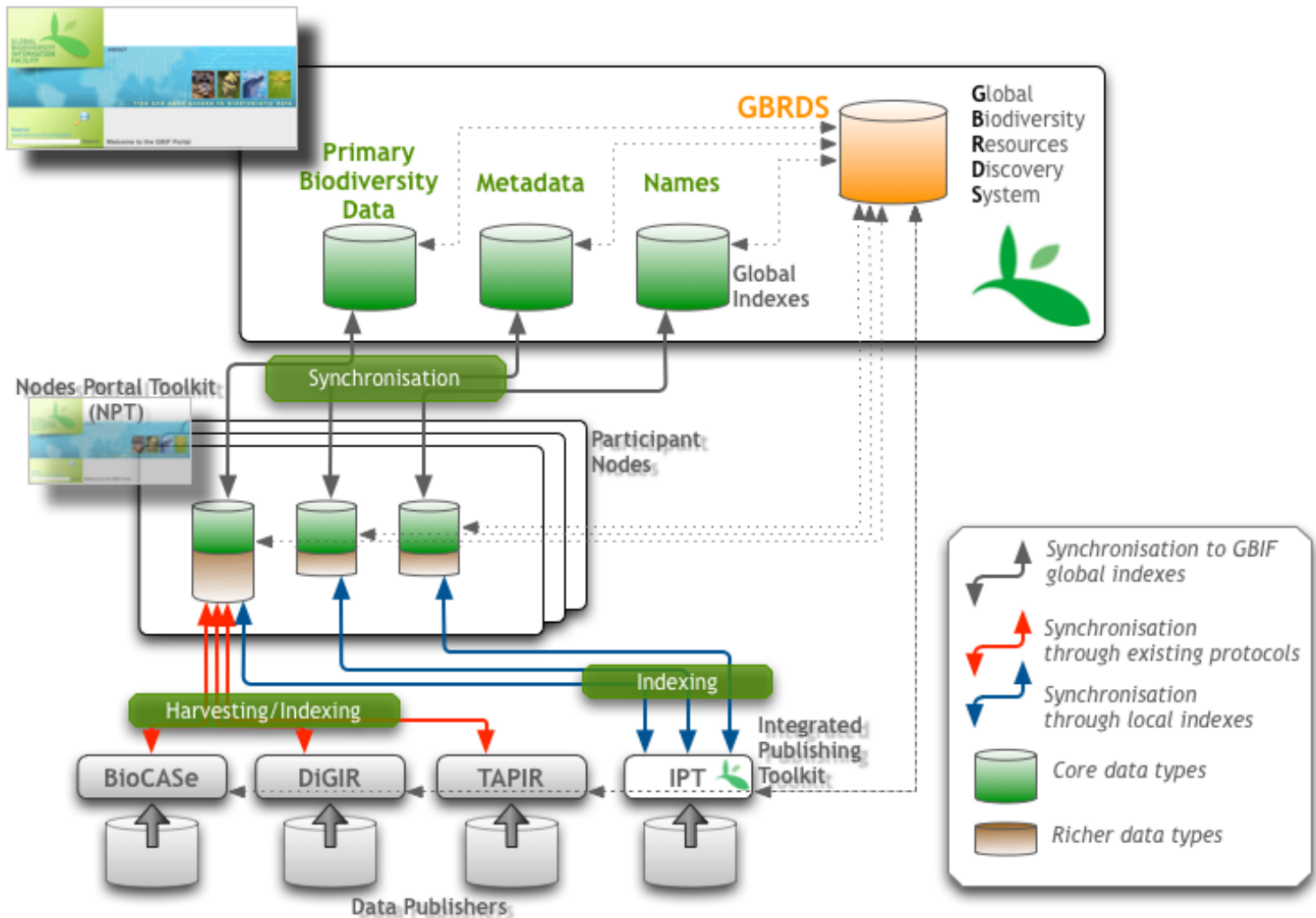


GIASIP end-users

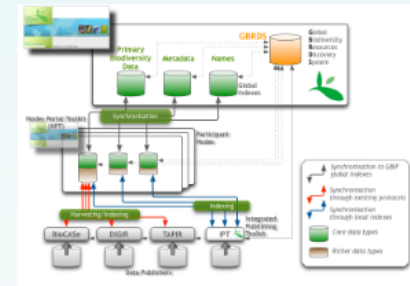
Option 4: A collection of hyperlinks + metadata + all required information to address Target 9

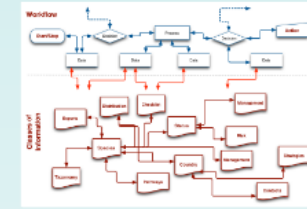
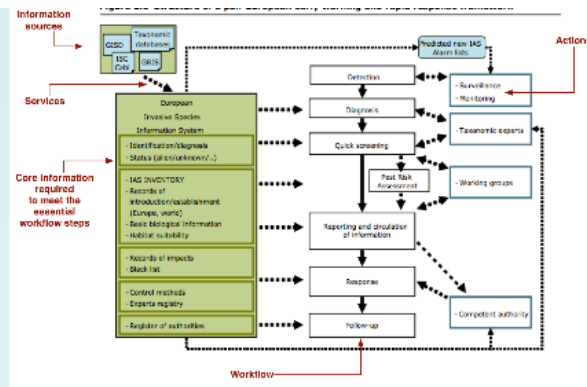
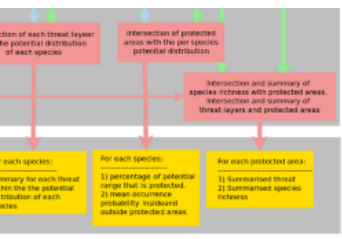
Clarias gariepinus ?





Option 4





Recommendations



Example of Workflow for a GBIF Partner

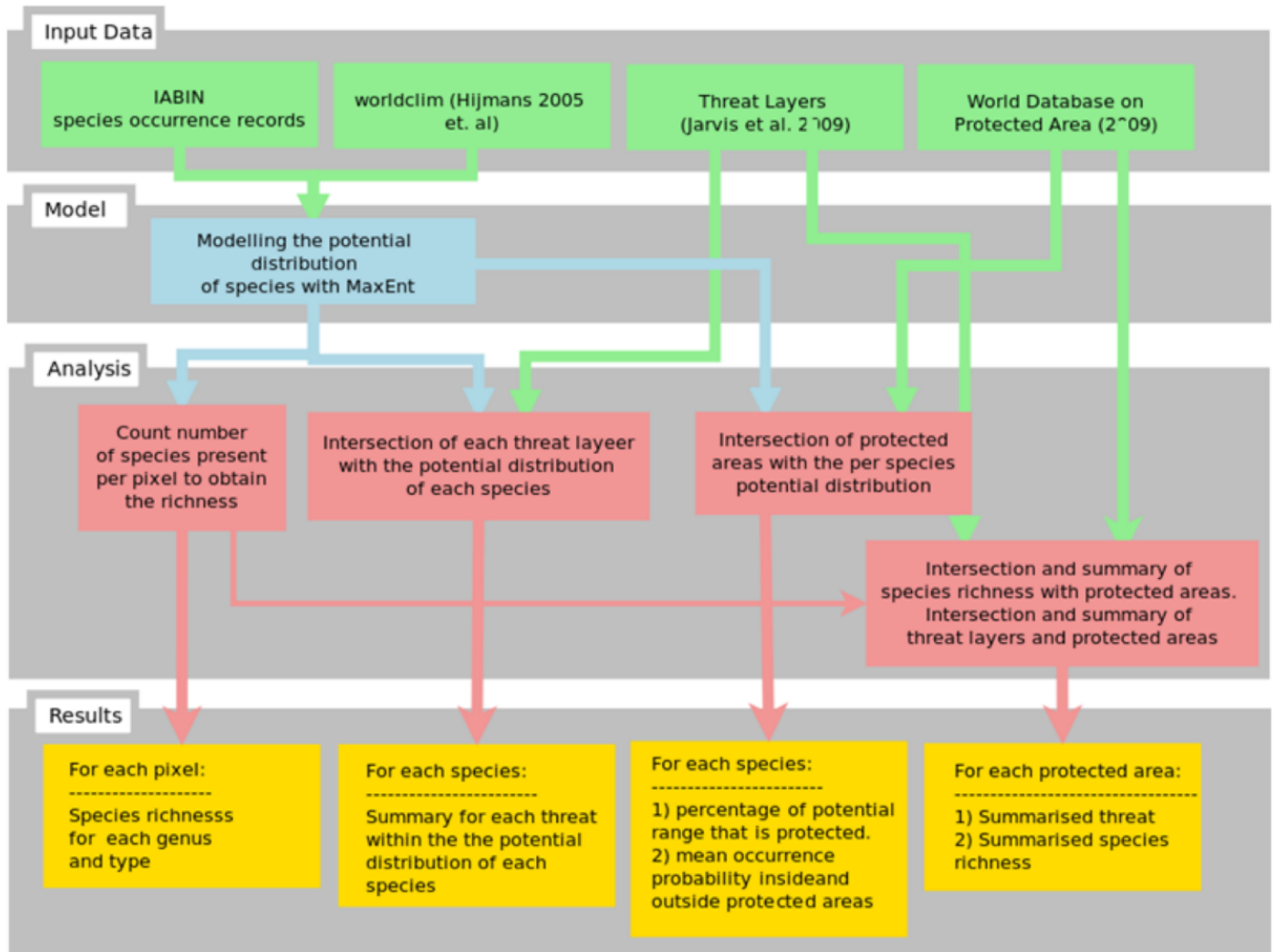
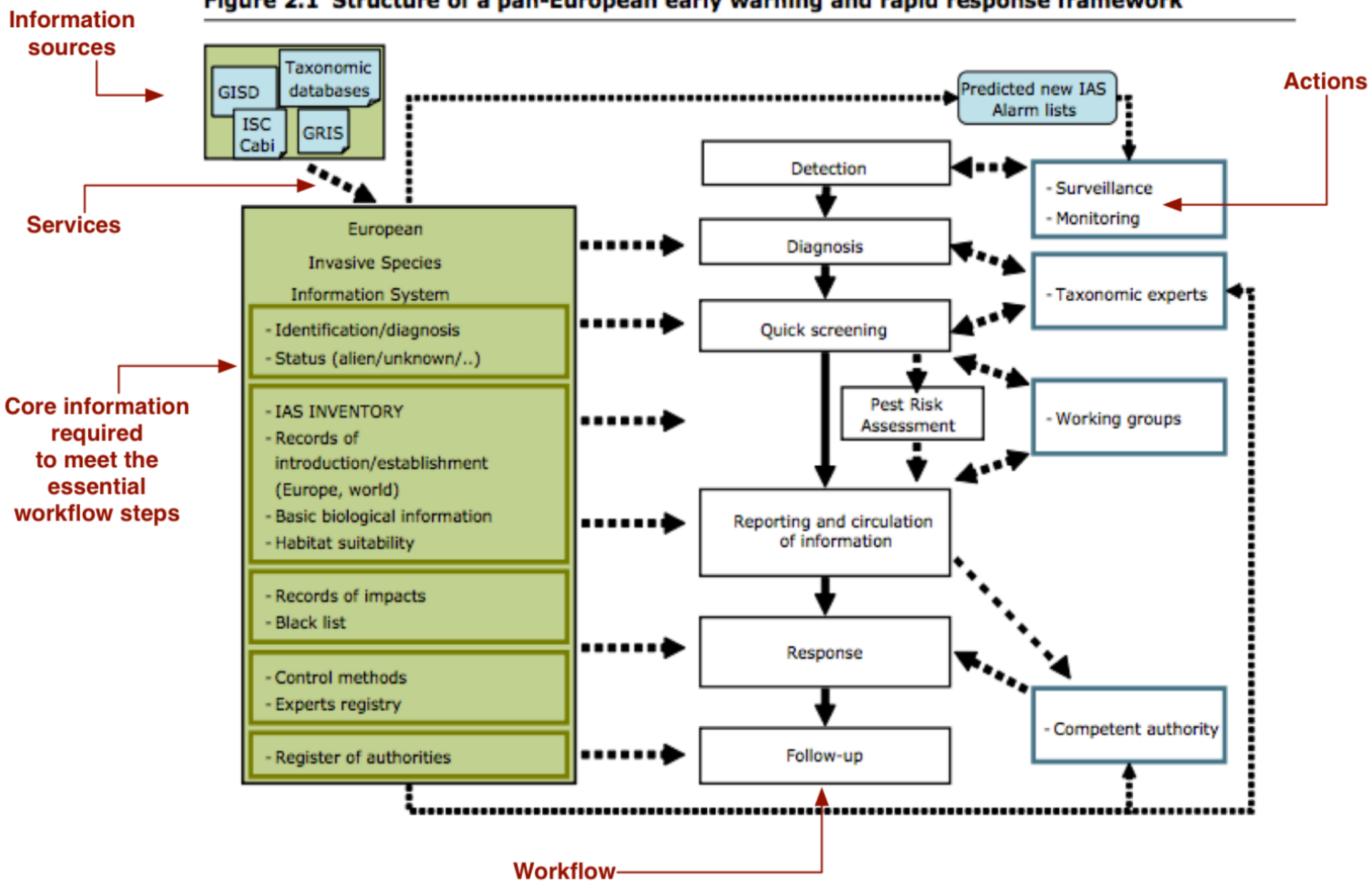


Figure 2.1 Structure of a pan-European early warning and rapid response framework



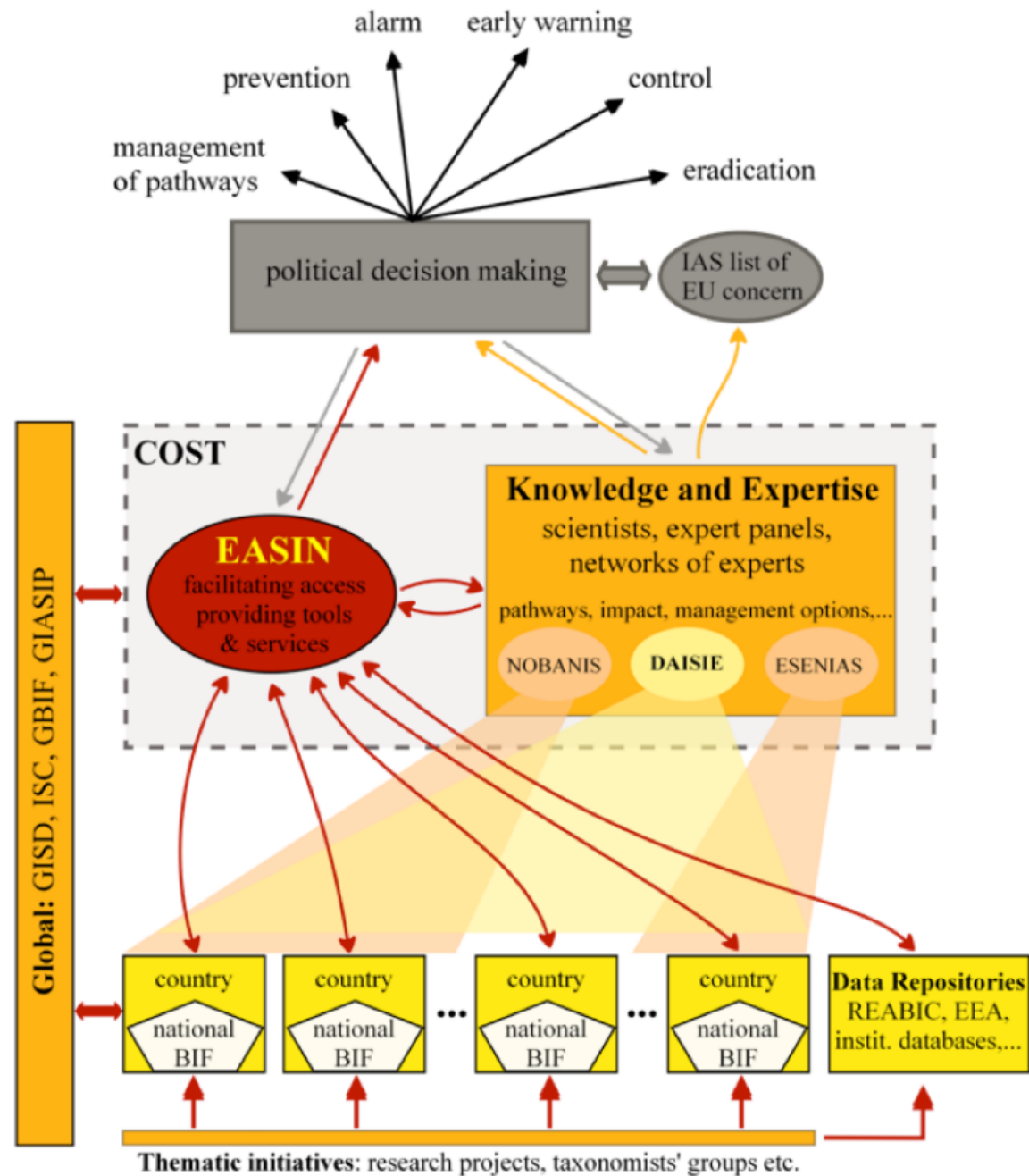
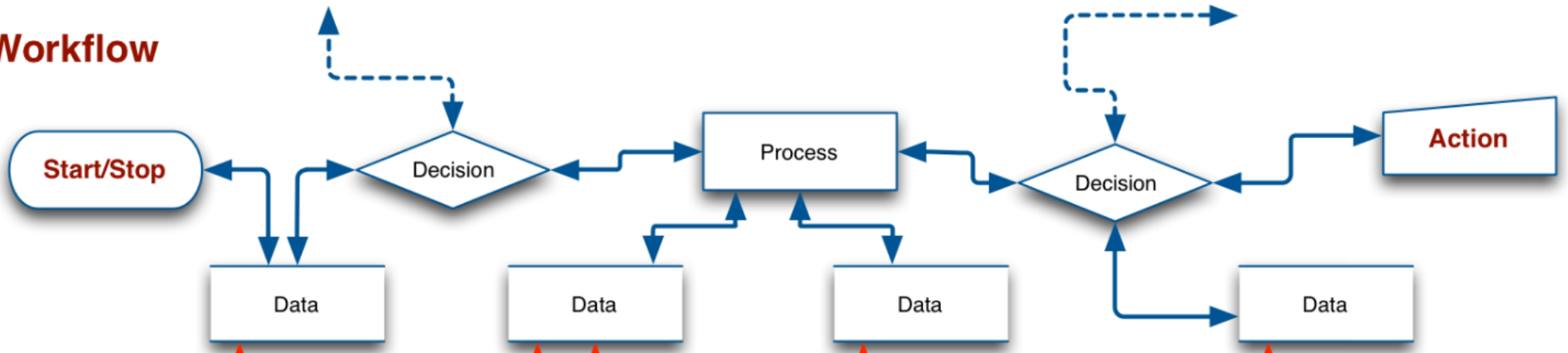
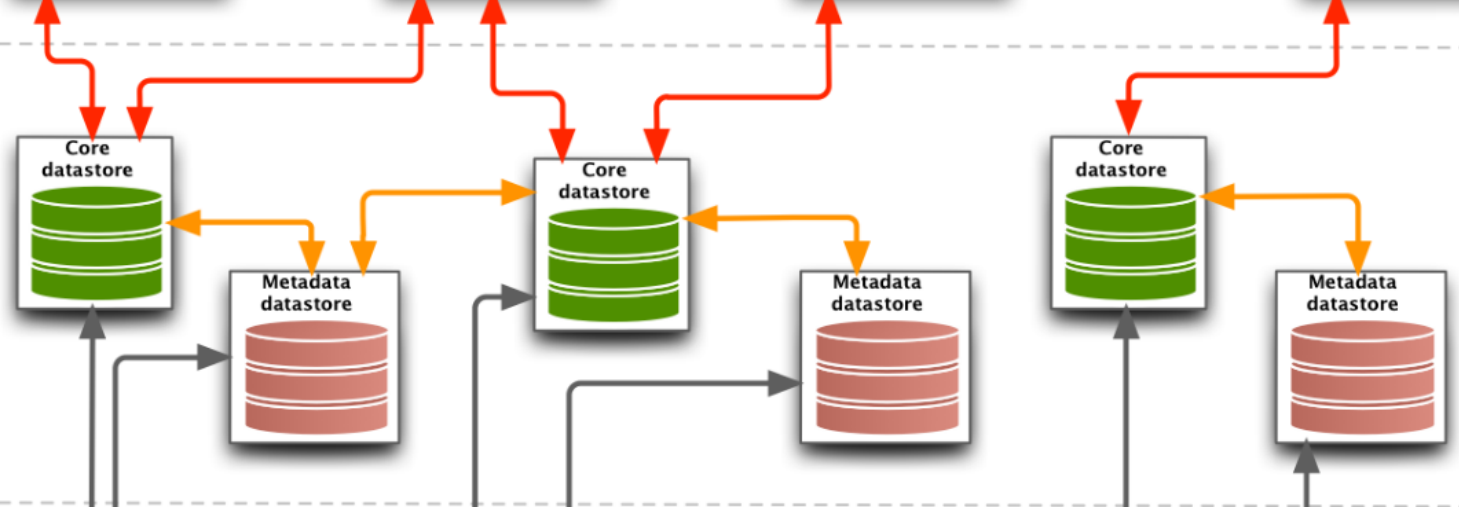


Figure 1: The proposed organizational chart of all the players in an information network for alien species aiming to provide the required knowledge and scientific advice to support political decision making. Red arrows indicate flow of data and information; orange arrows denote scientific advice; grey arrows stand for demands for policy support.

Workflow



Core + Metadata Databases

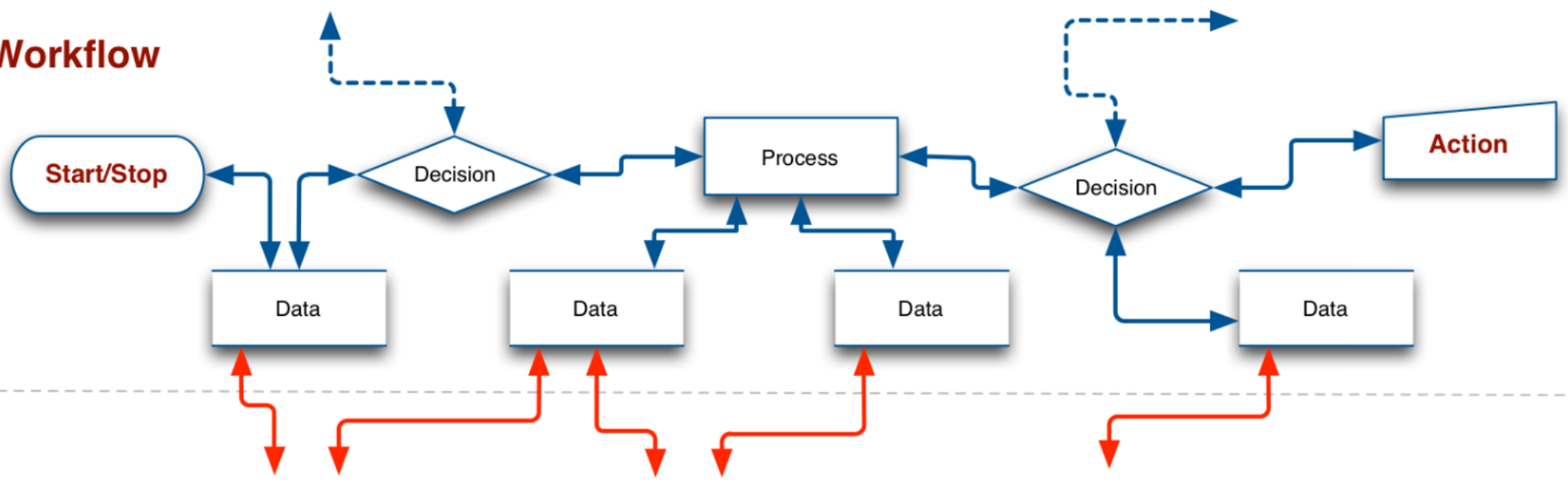


Partners

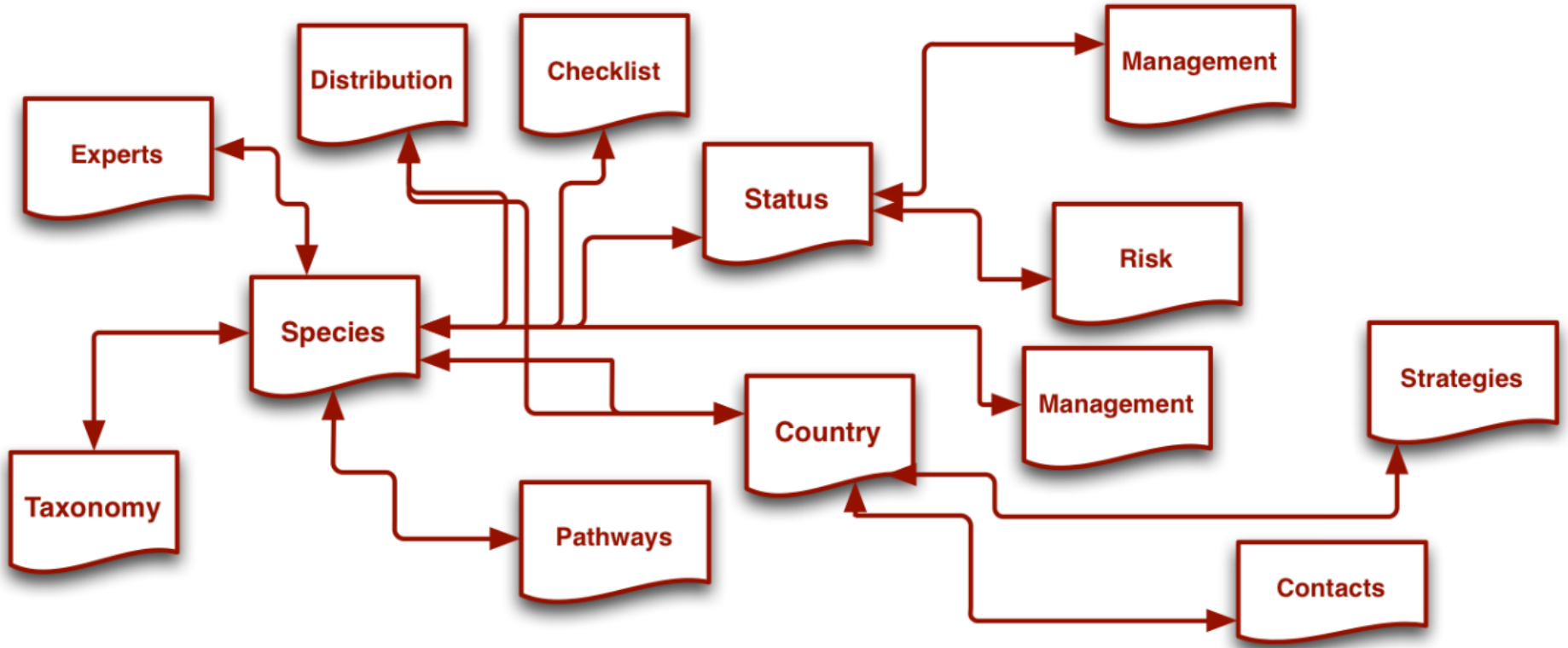


Proposal for the GIASIP: 1st phase

Workflow



Classes of Information



Recommendations

GIASP
Architecture

