Fielding the field-to-fields pipeline:
From sampling through sequences in practice

N. Dean Pentcheff & Regina Wetzer
Natural History Museum of Los Angeles County

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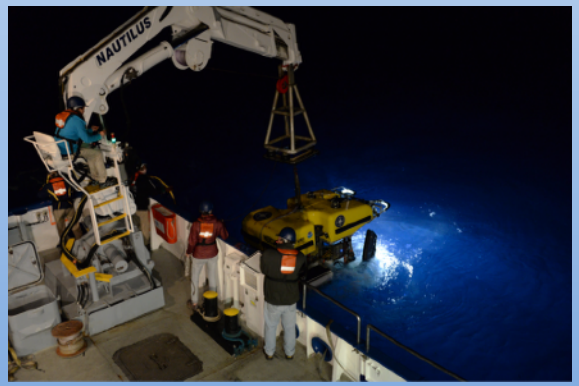
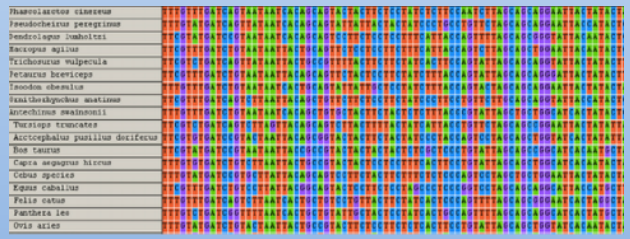
The digital collections landscape





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The data flow

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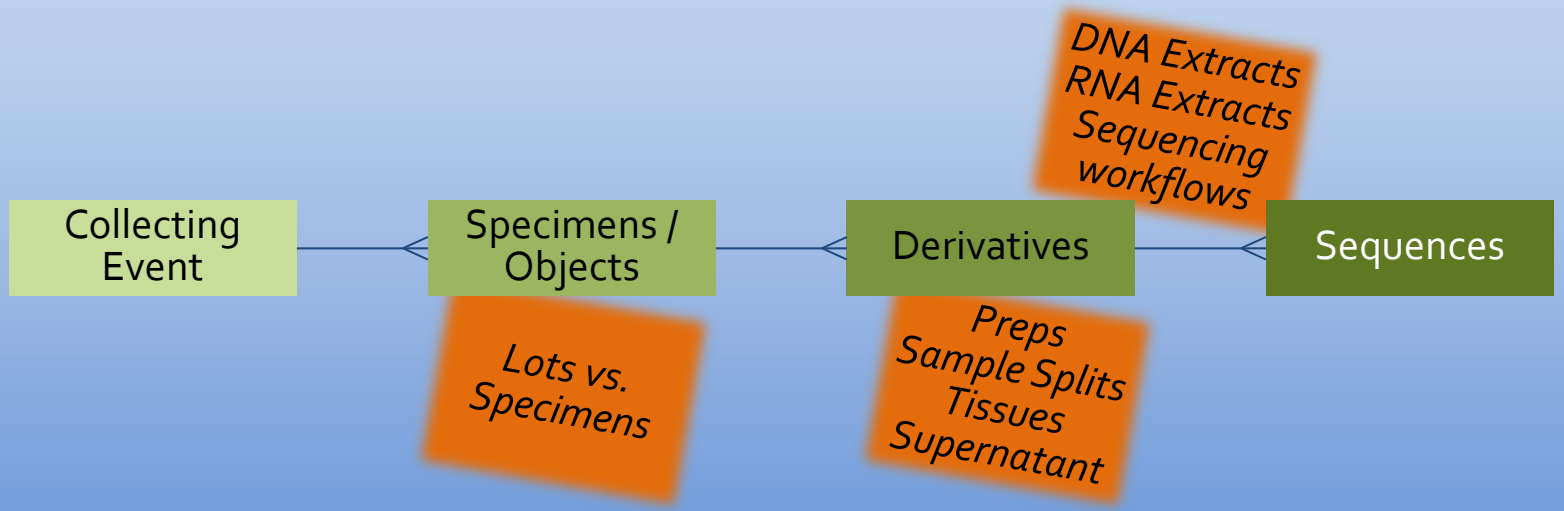
The data flow



Collectively how are we doing on this data landscape?

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The landscape in practice

It’s a bit sparse

The landscape in practice

Few institutions have the full pipeline

Photo of L.A. Water flowing above the Owens Valley.

Rob Reynolds

The two cultures

Collections/Specimens

Genetics/Sequences

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The two cultures

Collections/Specimens

Genetics/Sequences

Collections databases

Collection –> Specimens –> Derivatives

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Collection –> Specimens –> Derivatives

Collection Data

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The two cultures

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Collections databases

Collection –> Specimens –> Derivatives

Sequence management

Sequences <– Repository

Collection Data

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Sequence Data

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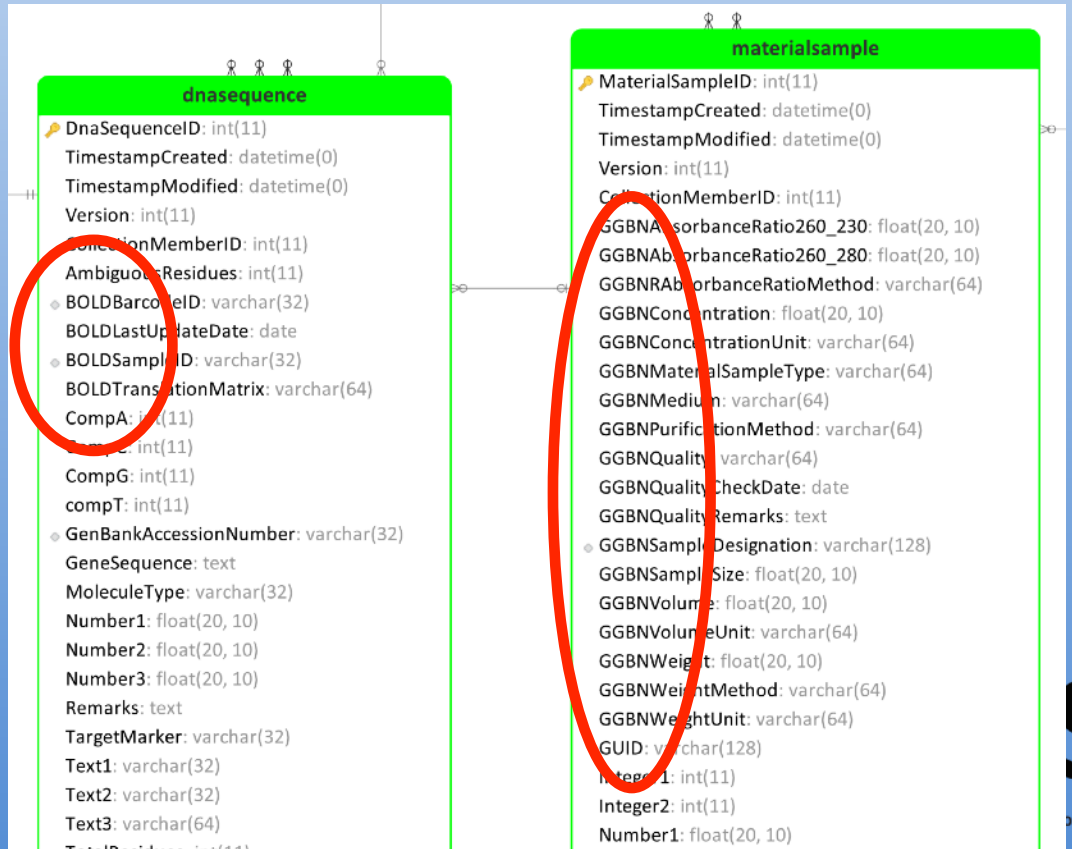
This is why we have friction

Example:
Specify



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SCO
or the Southern California Ocean

This is why we have friction

Example:
NHM
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Field Name	Type	Options / Comments (Click to toggle)
specimen ID	Number	Indexed, Auto-enter Serial, Always Validate, Required
parent	Number	Indexed, Always Validate, By Value List, Numeric Only
collection ID	Text	Indexed, Auto-enter Calculation replaces existing valu
taxon ID	Number	Indexed, By Value List, Message
determined by	Text	Indexed
determination date	Date	Indexed
determination reliable	Text	Indexed, Auto-enter Data, Always Validate, By Value L
determination remarks	Text	Indexed
determination timestamp	Timestamp	
determination history	Text	Indexed
genus species description	Text	Indexed
taxon description	Text	Indexed
molecule usefulness	Text	Indexed
physical location	Text	Indexed
specimen count description	Text	Indexed
specimen exists	Text	Indexed, Auto-enter Data, Always Validate, By Value L
BOLD voucher status	Text	Indexed, Auto-enter Data, Always Validate, By Value L
remarks	Text	Indexed
export marker	Text	Indexed
creation	Timestamp	Indexed, Creation Timestamp (Date and Time)
change	Timestamp	Indexed, Modification Timestamp (Date and Time), Ca
BOLD Project	Text	Indexed
BOLD Collection Code	Text	Indexed, Auto-enter Data
BOLD Institution Storing	Text	Indexed, Auto-enter Data
BOLD Identifier Institution	Text	Indexed, Auto-enter Data
BOLD Extra Info	Text	Indexed
BOLD Museum ID OVERRIDE	Text	Indexed
BOLD Museum ID	Calculation	Indexed, from Specimen Database, = If (IsEmpty (Tri
BOLD Process ID	Text	Indexed
specimen label cache	Text	Indexed
specimen label	Calculation	Unstored, from Specimen Database, = /* if no taxonic
islisted	Calculation	Unstored, from Specimen Database, = If (Taxonomy::

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So we build adapters

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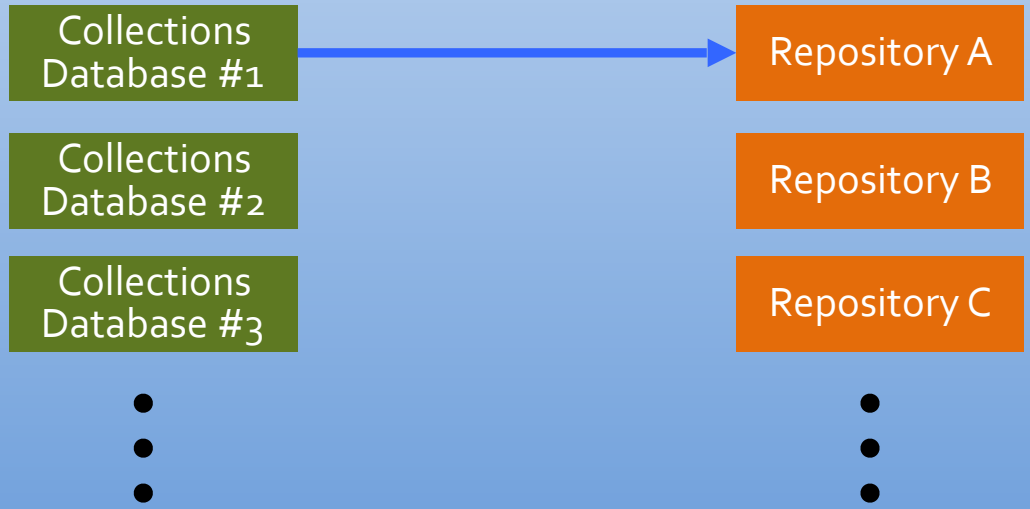
So we build adapters



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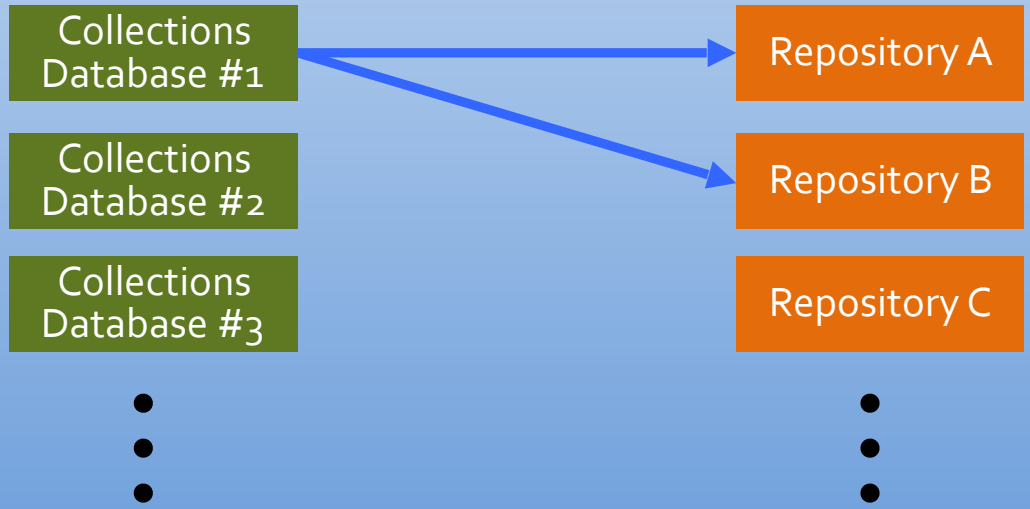
So we build adapters



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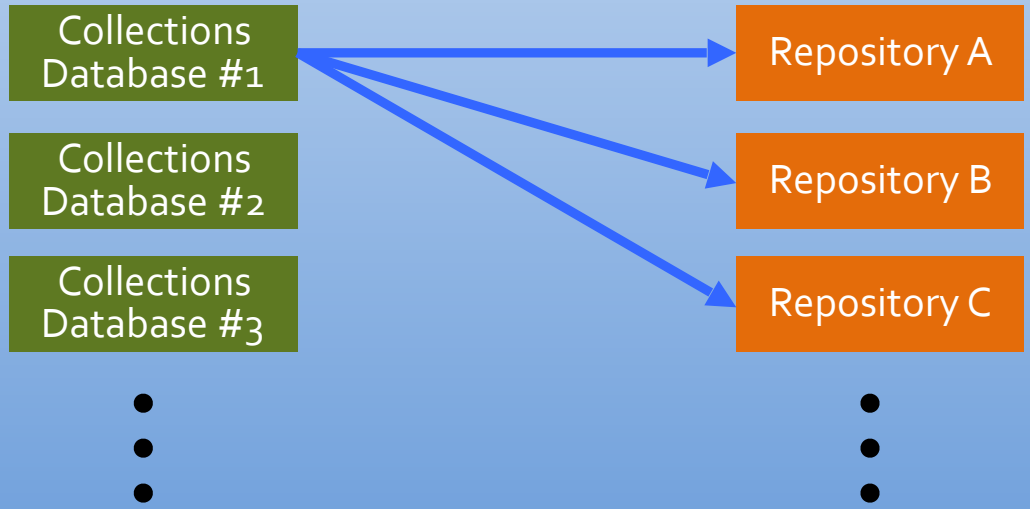

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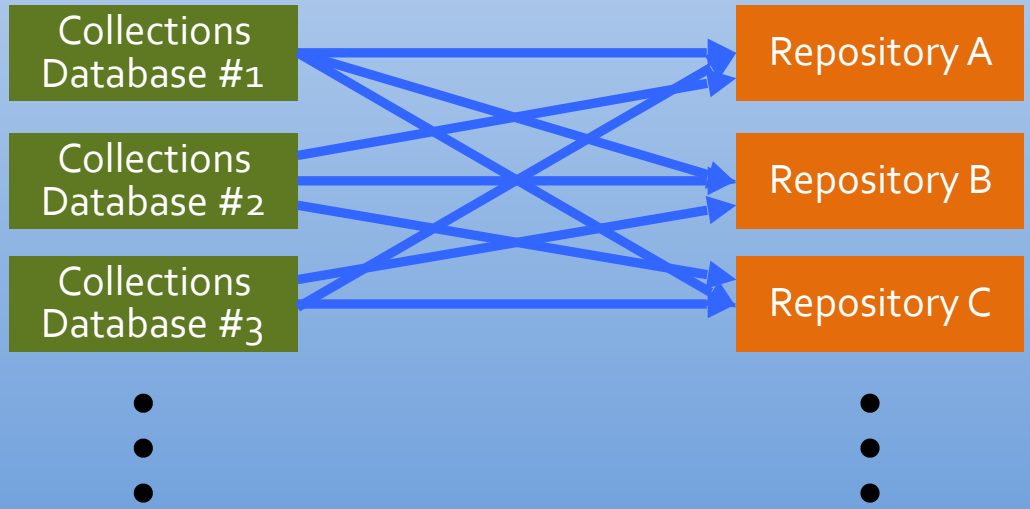

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Adapters are horrid time sinks

Recast identifiers,
combine fields,
convert units,
fix filename limits,
massage taxonomy,
convert date format,
etc.

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We do it under duress

In our case:

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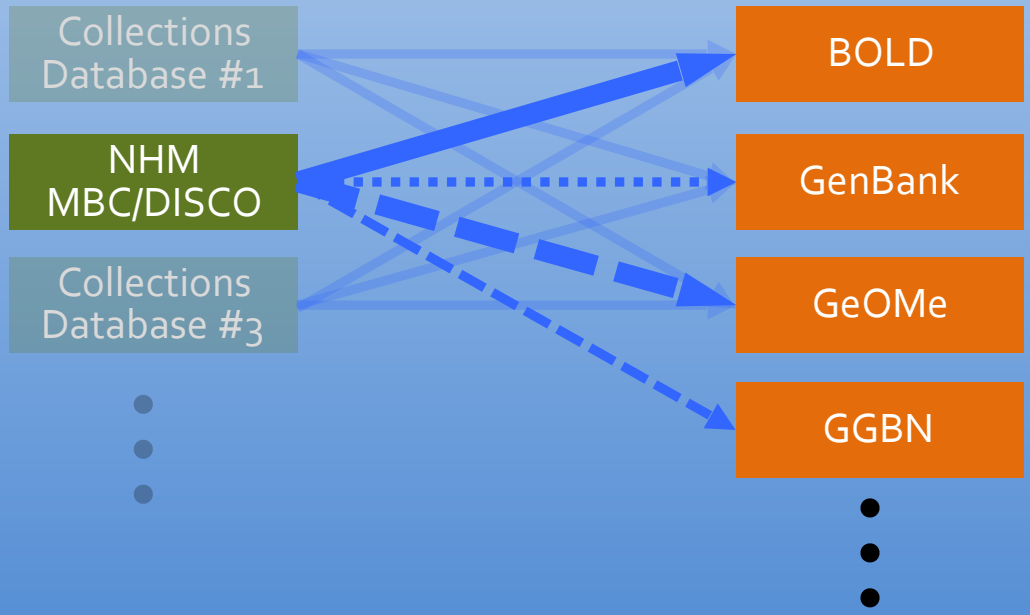

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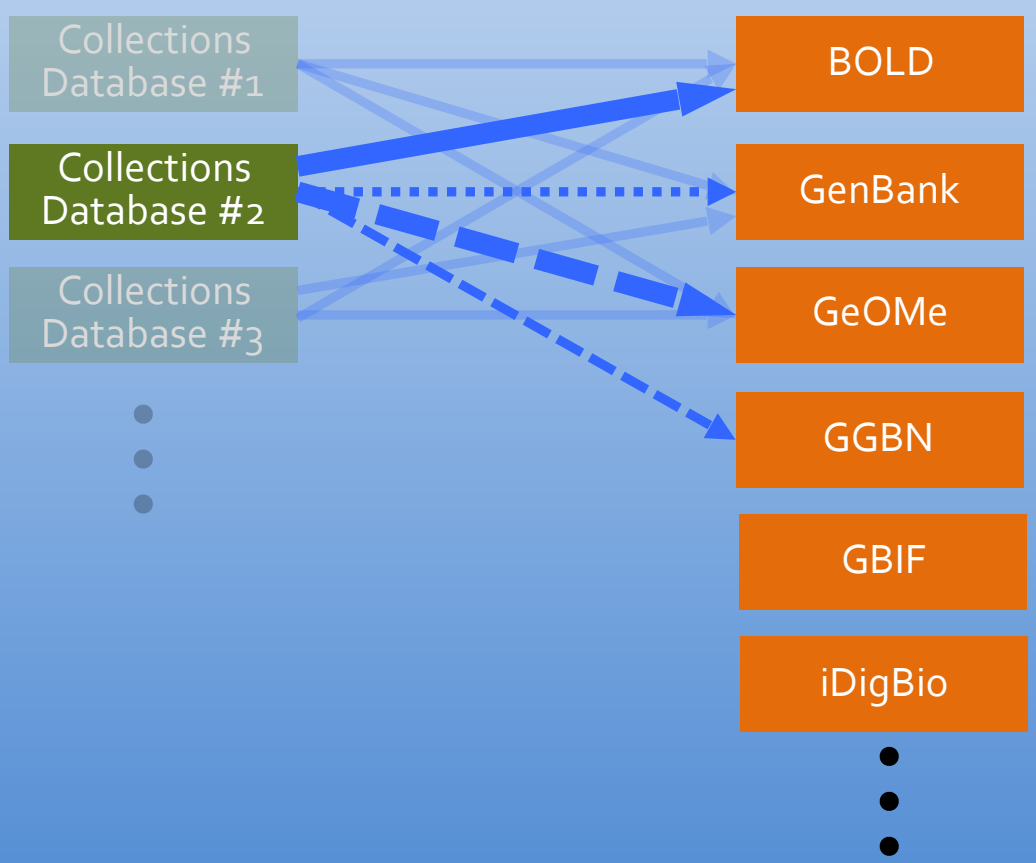
The landscape in practice

Few institutions have the full pipeline

Photo of L.A. Water flowing above the Owens Valley.

Rob Reynolds

What is to be done?



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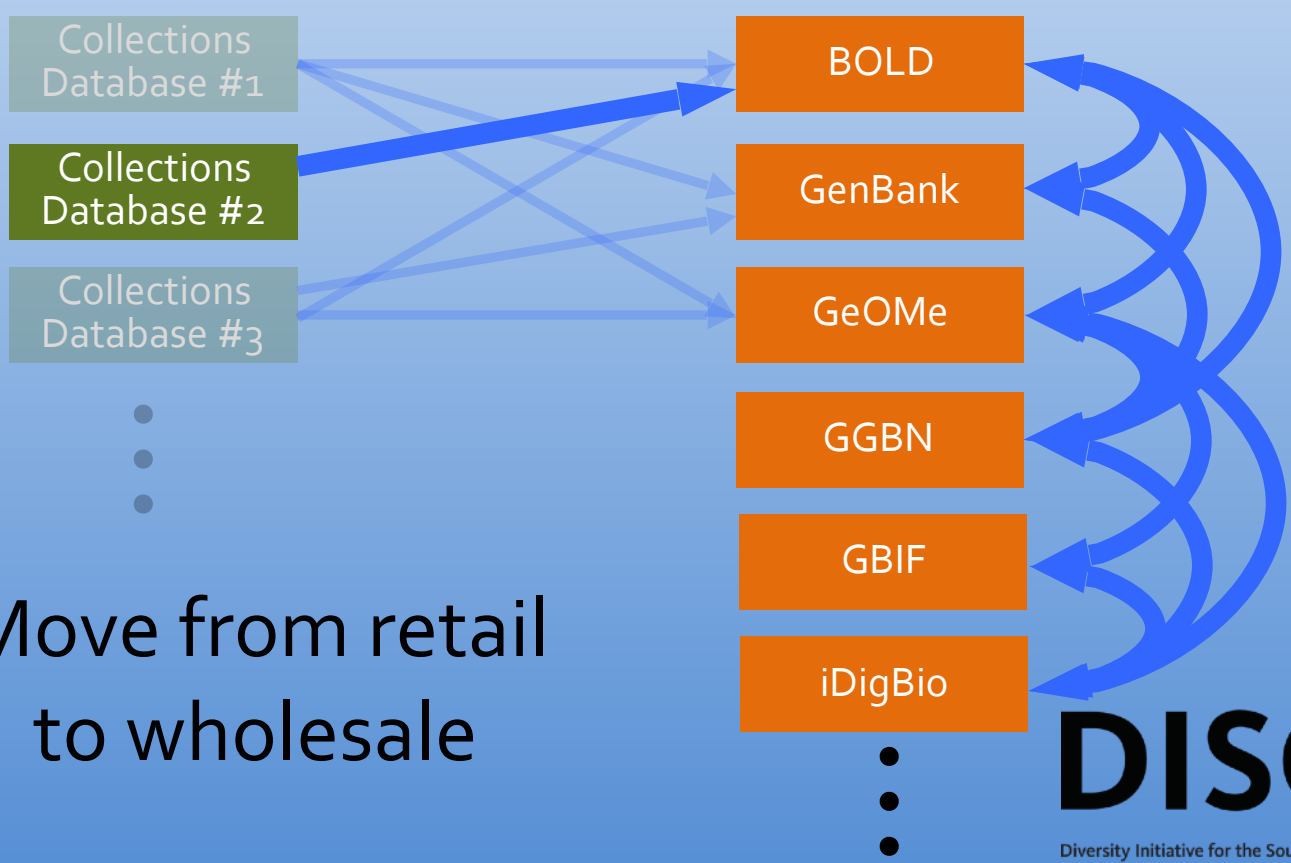
What is to be done?



Move from retail to wholesale

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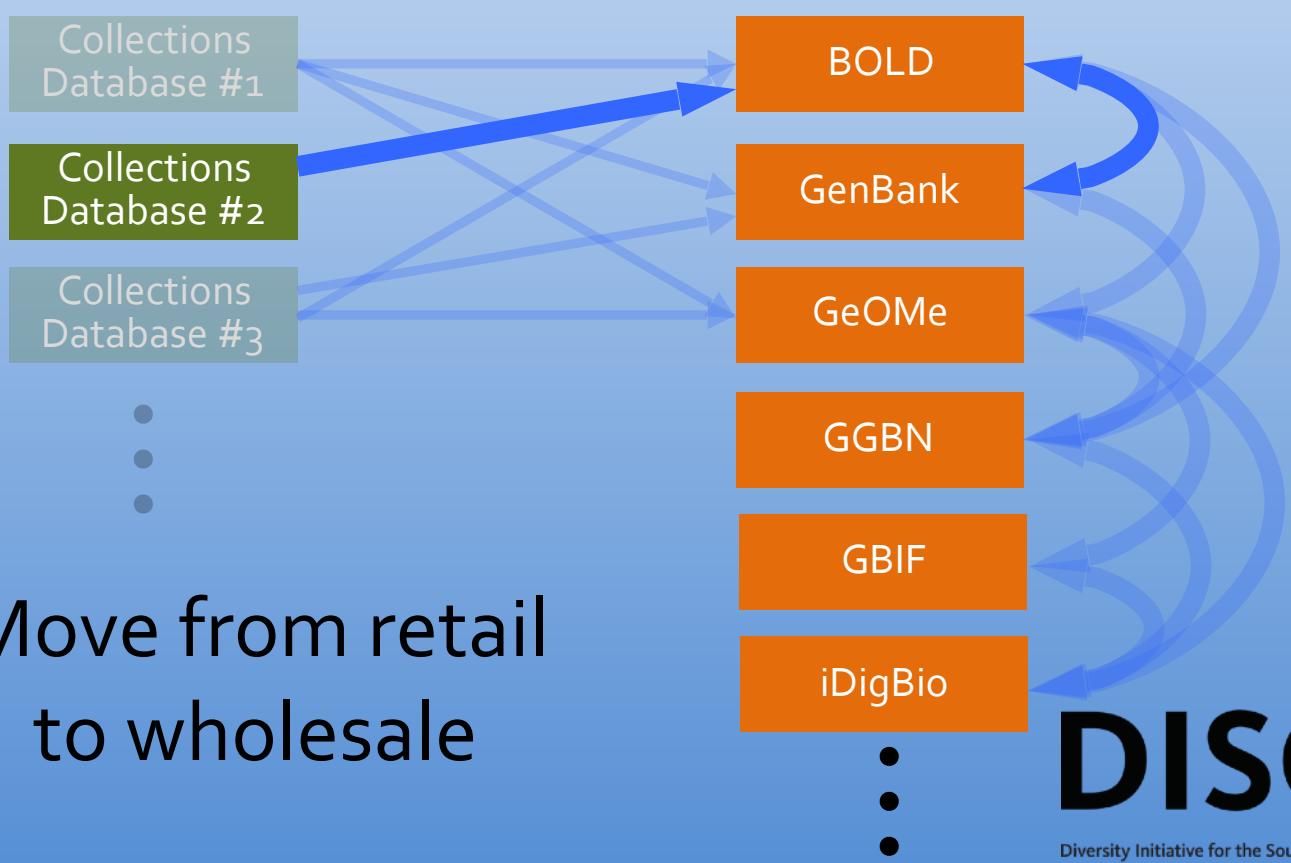
What is to be done?



Move from retail to wholesale

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May our data flow as smoothly
as waves to the shore...
Thanks to:
GGBN
NMNH LAB
Dean Pentcheff pentcheff@nhm.org
Regina Wetzer wetzer@nhm.org
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