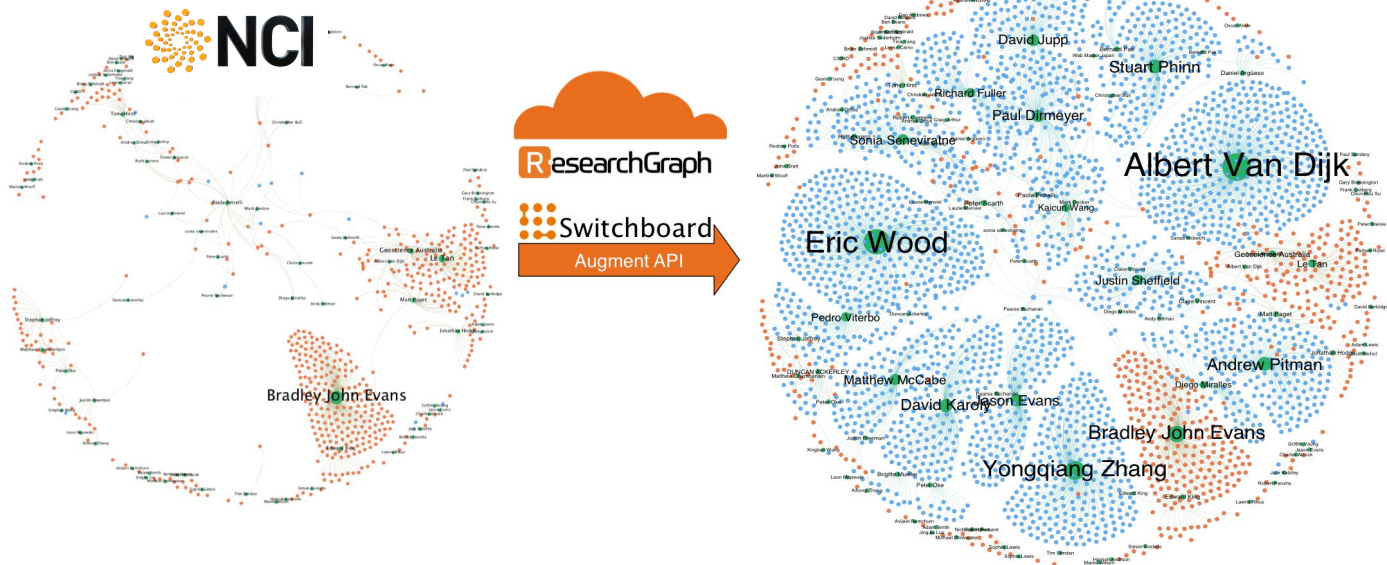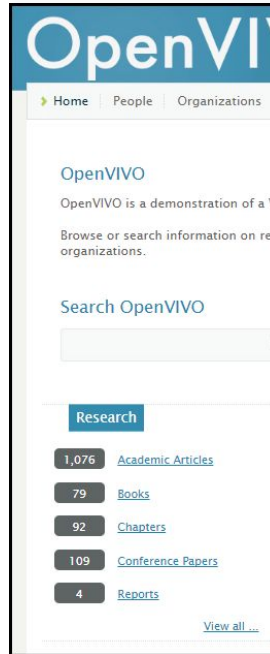# Creating a Data Service Using Research Graph and VIVO

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Institutions want connected graphs of scholarship, but technology and data practices are not generally available

Example of Augmented Graph

What is VIVO?

Sample VIVO Visualizations
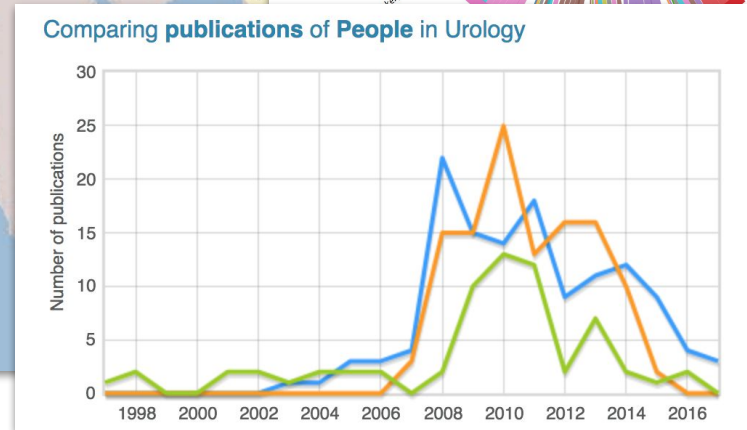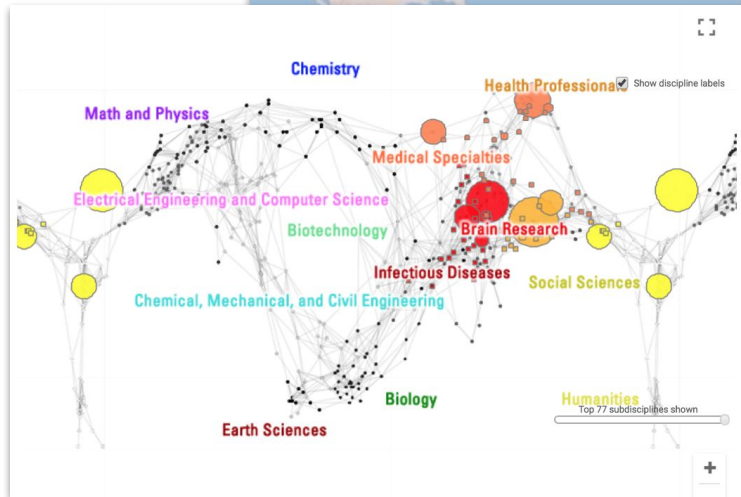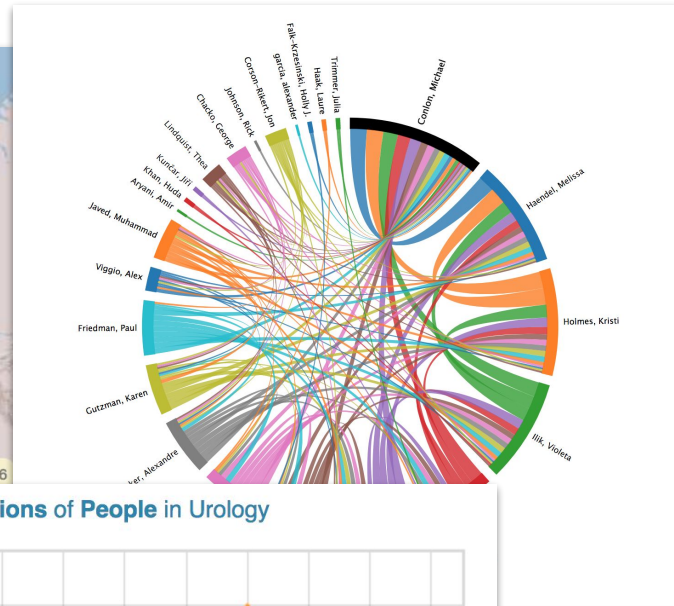
SPARQL Query

Query:

```
16  PREFIX skos:      <http://www.w3.org/2004/02/skos/core#>
17  PREFIX vcard:     <http://www.w3.org/2006/vcard/ns#>
18  PREFIX vivo:      <http://vivoweb.org/ontology/core#>
19
20  #
21  # Count high-level entities in VIVO.
22  #
23  SELECT ?orgs ?people  ?publications
24         ?grants ?data_sets
25  WHERE {
26
27 ▾   {
28     SELECT (COUNT(DISTINCT ?uri) AS ?orgs)
29 ▾   WHERE {
30       ?uri a foaf:Organization .
31       }
```

Format for SELECT and ASK query results:

◉ RS_TEXT ○ CSV ○ TSV ○ RS_XML ○ RS_JSON

Format for CONSTRUCT and DESCRIBE query results:

○ N–Triples ◉ RDF/XML ○ N3 ○ Turtle ○ JSON–LD

Run Query

The Connected Graph
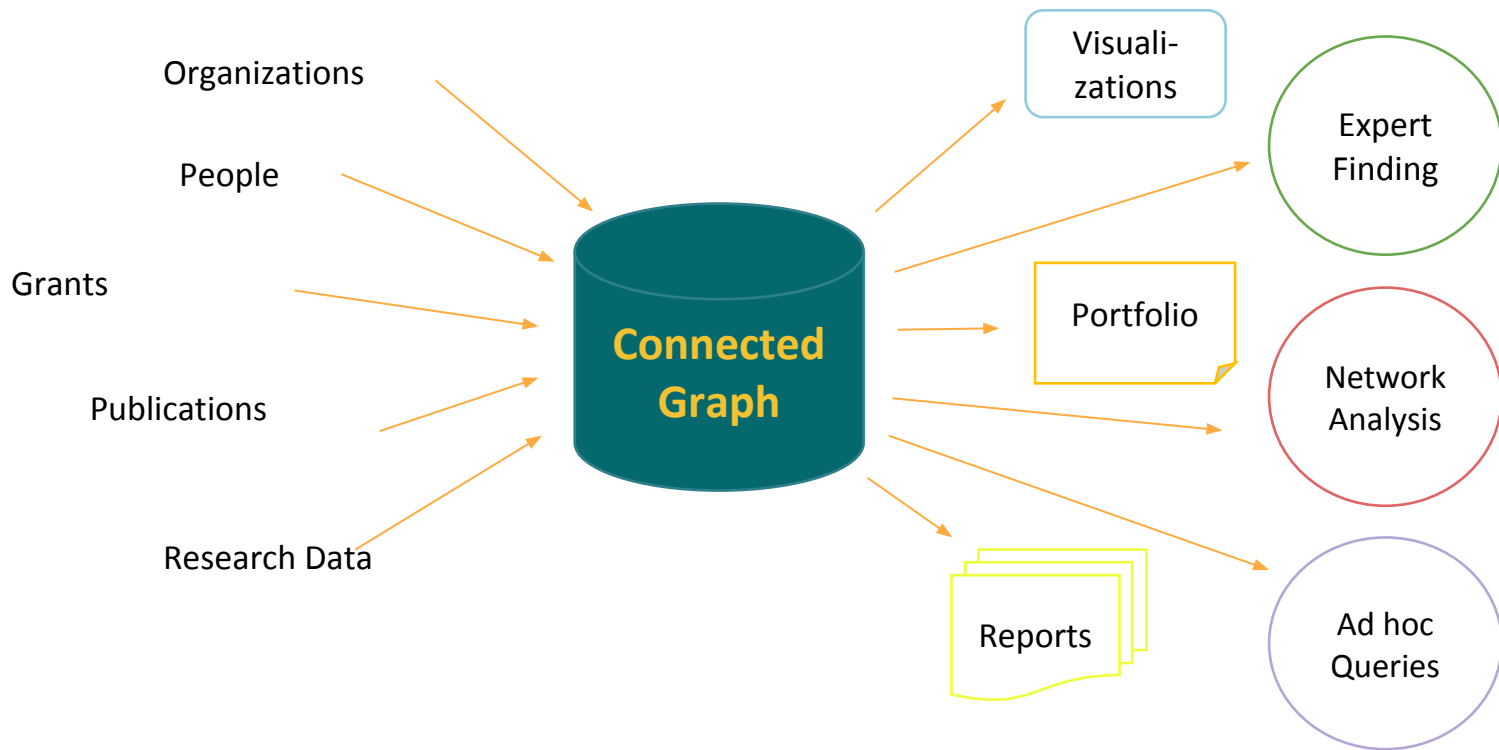
Solution

Use ResearchGraph to augment client's data, providing a rich and connected graph.

Load the graph into a private hosted VIVO, providing the client with a solution for visualizations, queries, and data reuse.

How the service works

Client provides

- A list of research datasets
- A list of researchers
- A list of grants
- A list of papers
- A combination of any or all of the above

These records will be augmented using ResearchGraph
Augmented data is represented as VIVO RDF
VIVO RDF data is loaded into a hosted VIVO for the client
Client gets a hosted VIVO with augmented data for presentation, query, and reuse

Main Technology Steps

- ETL: Work with repositories to transform their data into a connected graph
- Augment API: Using AWS cloud hosted services to improve the content of the graph.
- Create and launch VIVO instance on the cloud

1 ETL
Transforming the repository data to a connected graph

2 Augment API
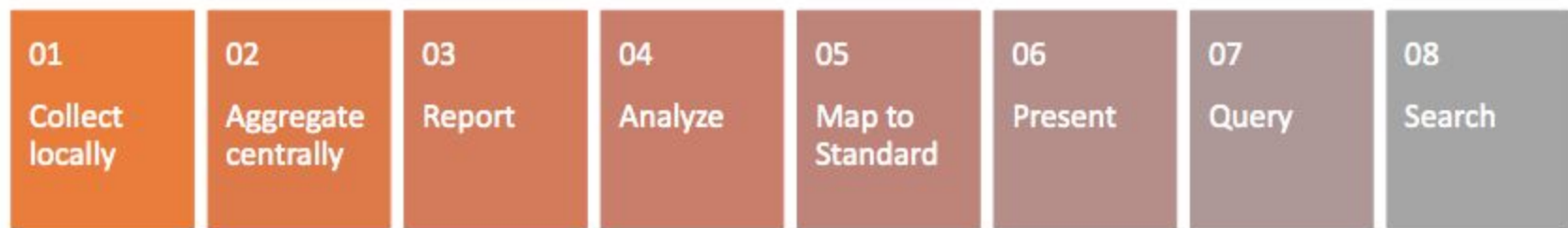Augmenting the repository data with research graph data

3 VIVO
Exporting VIVO RDF and Launching VIVO instance on EC2 Cloud

VIVO

| 01 Collect locally | 02 Aggregate centrally | 03 Report | 04 Analyze | 05 Map to Standard | 06 Present | 07 Query | 08 Search |

ResearchGraph

Join us in discovery

Research Graph and VIVO are working with Duraspace, a non-profit organization, (see http://duraspace.org) to create a pilot service. Based on findings from the pilot, final features of the service will be determined.

To express interest in the pilot, visit
http://researchgraph.org/collaborators/cloud-pilot/