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Building connections between datasets, researchers and publications at NCI using RD-Switchboard

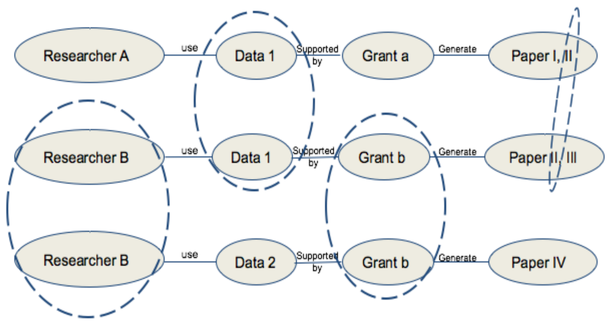
Jingbo Wang[1], Amir Aryani[2], Ben Evans[1], Melanie Barlow[2], Lesley Wyborn[1]
[1]National Computational Infrastructure, ANU, Australia; [2]Australian National Data Services, Australia

NCI NATIONAL COMPUTATIONAL INFRASTRUCTURE

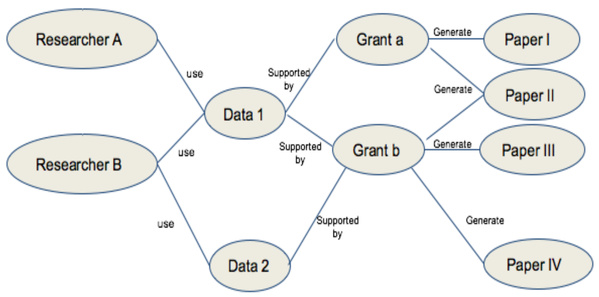
1. Driver: the ability to connect datasets to grants researchers and resultant publications

Making research data connected, discoverable and reusable are key enablers of the data-intensive revolution. Using the Research Data Switchboard (www.rd-switchboard.org) for the data catalogue for NCI Australia, we show how connectivity graphs can enable machine-actionable literature searches to discover links between researchers, publications and datasets. RD-Switchboard can also detect errors in the metadata catalogue, thus improving the quality of information in it.

1A. RD-Switchboard enabled a transition from individual metadata records that describe linear relationships…

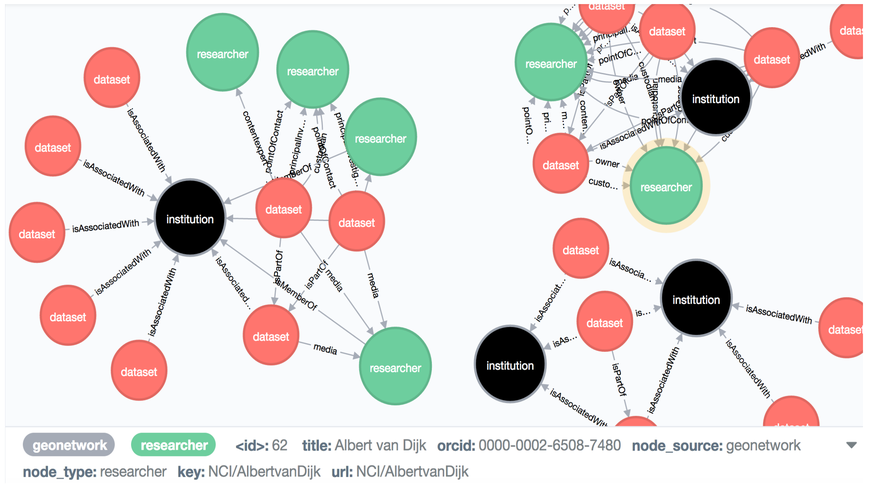


1B. …to graph connections made through using identifiers such as DOI, ORCID, etc.



2. Introducing RD-Switchboard

2A. RD-Switchboard output of NCI's metadata connections

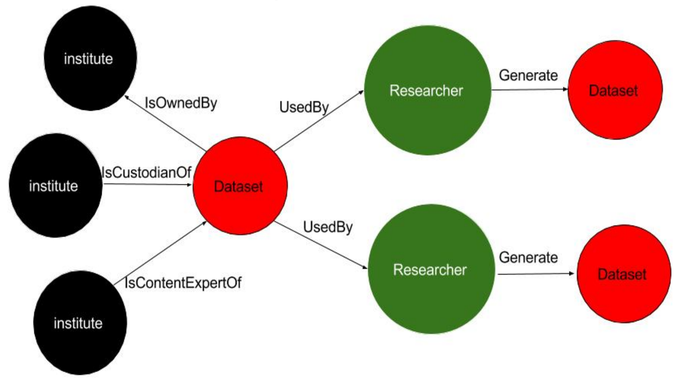


2B. Questions RD-Switchboard can answer

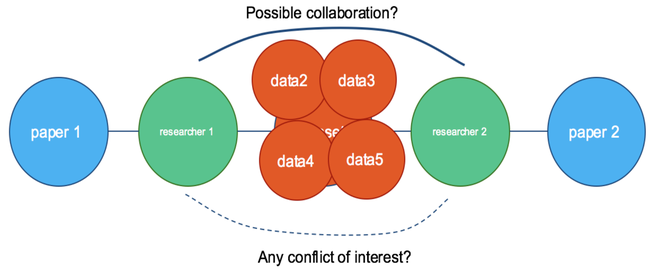
User Question?	*RD-Switchboard answer*
Which NCI datasets underpin high impact publications?	*List of datasets published at NCI that are being referenced in research journal articles.*
What is the awareness of NCI datasets within the research community?	*Number and location of researchers/institutes that are connected to NCI datasets.*
Who do I contact to find more about how to use this dataset?	*Who has used this data set in their publications and for what.*
What other research has been done using this dataset?	*Finding connections between NCI datasets and international repositories such as CERN and ORCID.*

3. Types of outputs from RD-Switchboard

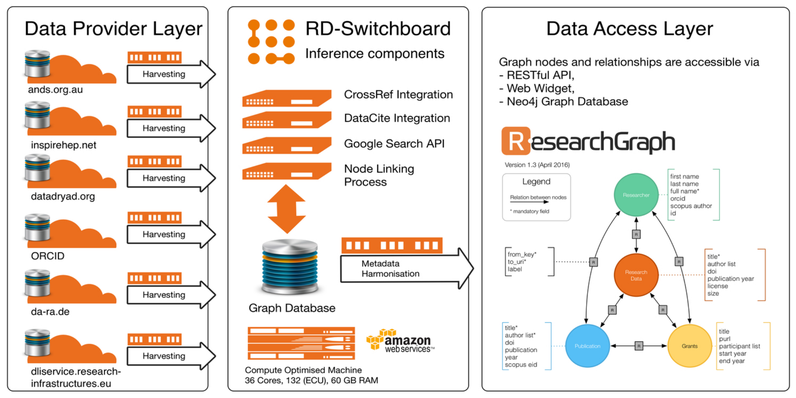
3A. Centralised view on multiple relationships and multi-thread data provenance.



3B. Information exchange hub: who else is using this data set? (e.g., one group is downloading a climate dataset not knowing another group is also).



4. Future plans: http://researchgraph.org



Contact: Jingbo.Wang@anu.edu.au

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National Computational Infrastructure
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