



# **RSpace as Research Infrastructure Orchestrator: Scalable Service Delivery model for Multi-Institutional RDM**

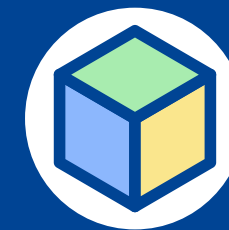
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# The problem



- Research infrastructure providers face a critical challenge: How to deliver integrated, FAIR-compliant, cost effective research data management (RDM) services efficiently across multiple departments and institutions without building and maintaining too many custom solutions.
- Community colleges, regional universities, and smaller research organizations all want sophisticated RDM capabilities but often lack the resources to deploy and maintain them independently.



# The solution

- As ELN systems and RDM requirements mature, we have seen the focus change:

**Individual > lab > institution > national infrastructure**

- The cost per user has fallen with increasing scale.
- Supporting data management best practices is best accomplished by allowing users and groups to build RDM features on top of a familiar system they most likely already use every day for note-taking.



# Good habits beat good intentions.

- A centuries-old tradition and best-practice for researchers is to make a habit of daily, accurate, contemporaneous note-taking describing research activities and observations.
- The paper notebook has evolved into the Electronic Lab Notebook (ELN), also called Electronic Research Notebook (ERN). ELNs have become an indispensable tool for recording research activity, capturing data files and more recently, tracking information about collaborations, protocols, samples, equipment, instruments and more. When used diligently, ELNs become the primary source of knowledge and truth in a modern lab.



# ELNs enter a new phase - RDM

In addition to core record-keeping functions, RSpace offers many tools:

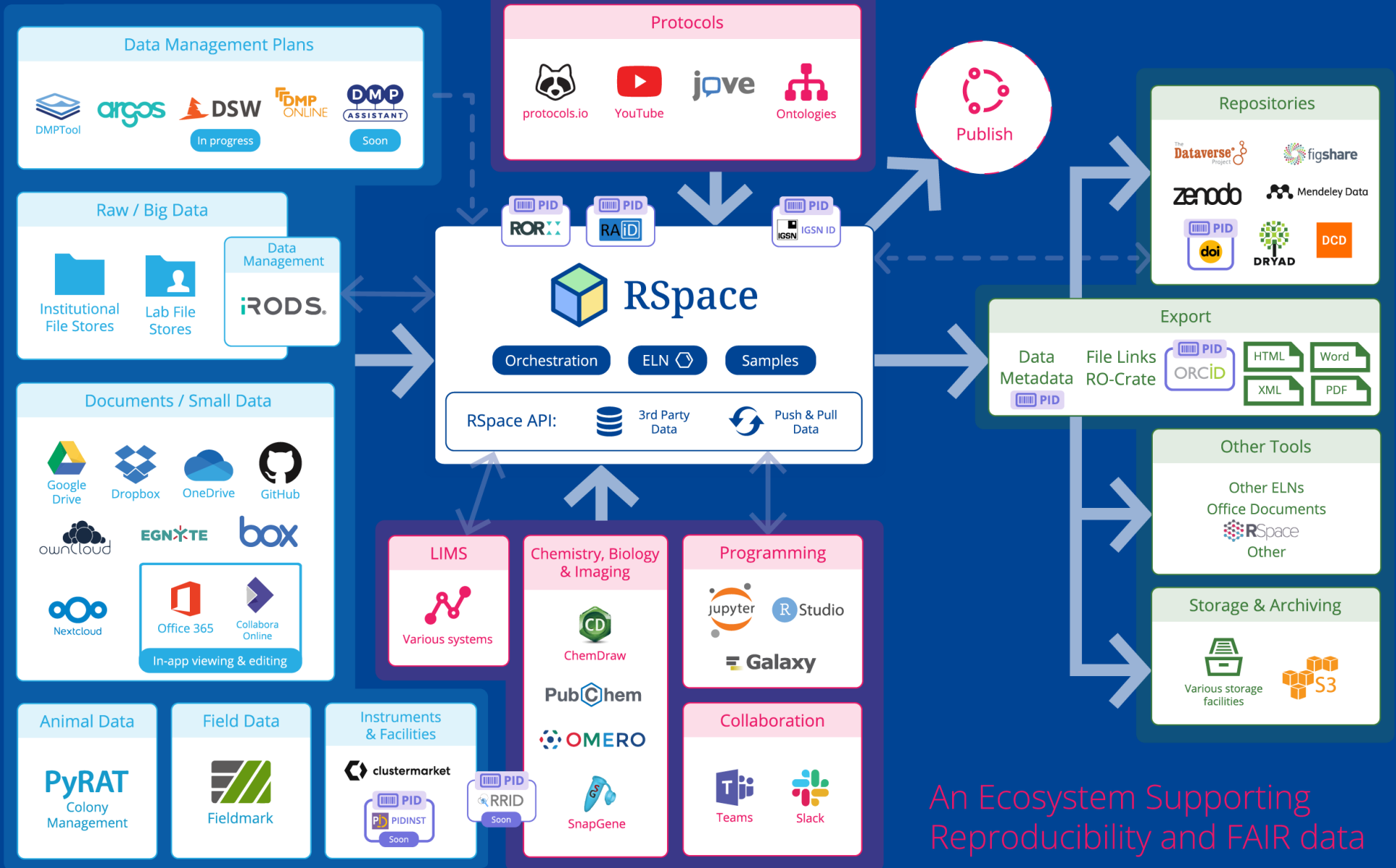
- Modern APIs to allow data and metadata to flow between systems
- Open-source flexibility to allow customization and “build-your-tools-on-a-platform”
- Out-of-the-box integrations with existing data tools
- Embedded digital identifier technologies to promote FAIR data.
- Scalable integration with regional and national infrastructure



# Planning

# Active Research

# Archiving, Storage & Reuse



An Ecosystem Supporting Reproducibility and FAIR data



# Persistent identifiers PIDs in RSpace



ORCID - researchers



ROR - organizations



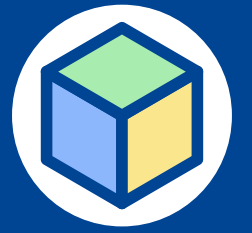
IGSN – samples



RAiD – projects



Coming soon: PiDinst - instruments



# Research Commons organizations we work with or are talking to

SURF (Dutch national research infrastructure provider)

SUNET (Swedish national infrastructure)

REASON (ResEARch CommonS fOr Norway)

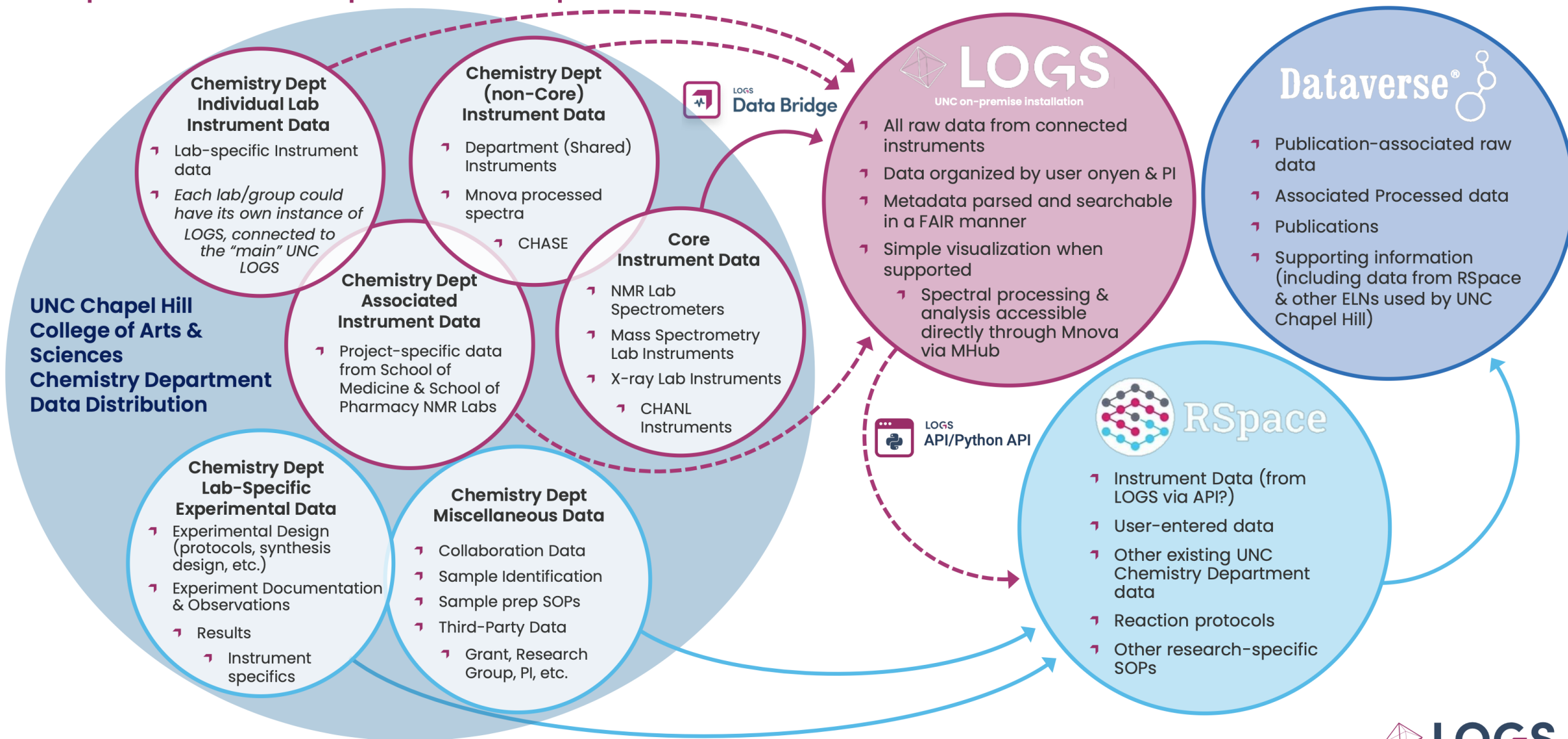
UNC Research Data Management Core

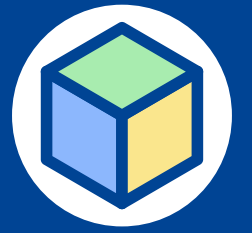
Biofair (UK)

and others.....

# Proposed UNC Chemistry Instrument Data Workflow

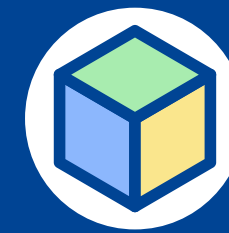
## Incorporation of LOGS & RSpace at UNC Chapel Hill





# Economies of scale help with new financial realities.

- Katherine Skinner of Invest in open infrastructure has talked about the unsustainable and expensive mosaic of data management tools used in academia and the need for standardization and free flow of data between systems.
- With budgets shrinking institutions will need to learn how to do more with less by supporting shared infrastructure and open, connected data management tools.



# Learn more about RSpace...

Learn more about RSpace and its use as a combined ELN, FAIR data management system and shared data infrastructure tool here:

<https://demos.researchspace.com/public/publishedView/document/r50iTJ-rNv69Qd3UdF69cw>