

The National Data Service:

Virtualizing infrastructures for Data / Session III

National, Federated Data Service(s)

Urgent need for national infrastructures for data

- Extensible, integrated national-scale services
 - Storing, sharing, finding, verifying, publishing, citing, reusing...
- Open and federating architecture
 - building on the infrastructure currently at discipline/community level
 - allow data providers to make data accessible in the national environment
 - allow new and community-produced tools and resources to be plugged in

What should NDS do for researchers?

- Help researchers *find data*
 - Cross-disciplinary searching
 - Find data related to a publication
 - Allow drill down to leverage specialized community-specific discovery
- Help researchers *use data*
 - Download data, browse metadata, track provenance
 - Move data to processing platforms for specialized (re-)processing and analysis

What should NDS do for researchers?

- Help researchers *share and publish data*
 - Engage researchers early in the publishing process
 - NDS and federated local/domain repositories
 - sharing privately with collaborators prior to publishing
 - tools to help organize the data for publishing
 - automatically ensure links to literature
 - assign DOIs, provide links to publishers, synchronize data publishing with papers
 - Recommend appropriate discipline/community repository for long-term preservation
 - NDS Repository as archive of last resort

NDS: *A Builders Consortium*

- NDS vision requires collaboration of many kinds of institutions
 - compute and data services centers
 - universities and project repositories
 - discipline-specific federations
 - publishers
- NDS Consortium to guide the building, governance of services
 - coordinate separately funded efforts to build NDS components
 - ensure interoperability, integrate existing tools and resources
 - NDS Consortium Steering Committee formed

NDS Lab and NDS Share

- NDS Lab
 - target: friendly developers
 - community support environment for developing, coordinating, deploying prototype service
 - storage, virtual machines for developing and hosting services
 - available to NDS community members
- NDS Share
 - target: friendly scientists
 - experimental platform for sharing data
 - enable anyone to create data collections, store data, get DOI
 - include installations of community data sharing applications
- Partnership between NCSA, ANL, TACC, and SDSC
 - Other interested partners?
- Became available in January 2015

How does NDS relate to other activities?

- NDS complements and extends RDA
 - no attempt to duplicate
 - working closely with RDA groups to implement
 - NDS is member of RDA Global
- NDS: operating framework for data services, on top of existing activities
 - narrow focus on specific functions, leveraging existing capabilities
 - create collections, identify, deposit, publish, link...

