

BIRN Update



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Biomedical Informatics Research Network

- Infrastructure and services to support collaborative biomedical research
- Established by NCRR in 2001.
 - Organized around coordinating center and testbeds

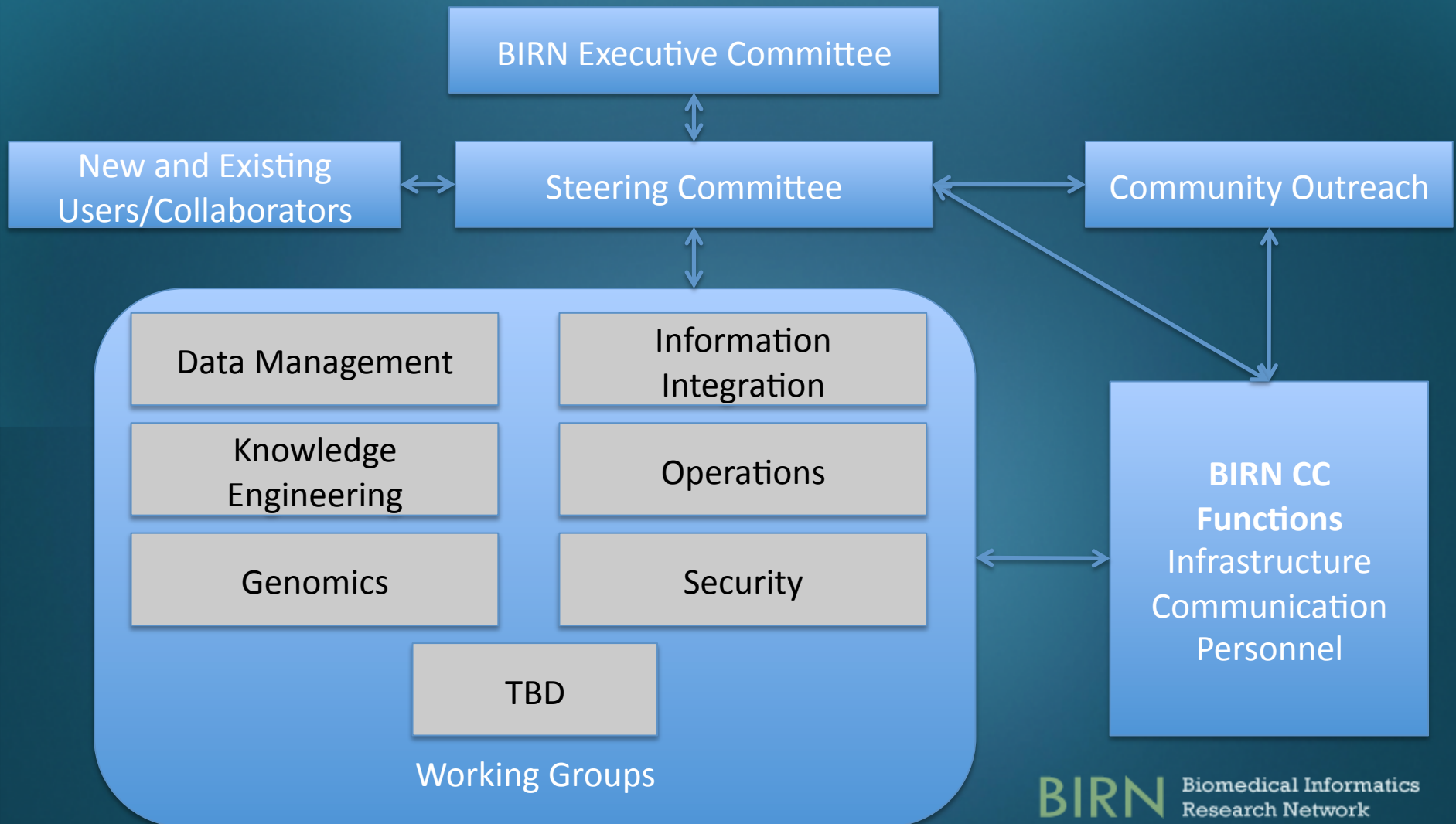
Transition and Status

- BIRN CC Transition from UCSD to new team completed May 2009.
- BIRN Executive and Steering Committees functioning
- Working Groups operating
 - Operations
 - Security
 - Data Management
 - Information Integration
 - Genomics
 - Knowledge Engineering

BIRN Approach

- Use-case driven requirements, bottom up design
- Well defined roadmaps, features, functions
- Layered architectural approach
 - Promote reuse across communities
- Move to software and services model
 - BIRN not defined by the “rack”
- Outreach to new communities
 - More than the testbeds

Governance



Common User Needs

- Data sharing
 - Among well defined communities, e.g. CVRG
 - Facilitate sharing with the public
- Infrastructure, e.g. grid FTP for sharing
- Data Integration
 - Mediation across data sources / query
- Security
 - Registration, credentials

BIRN Capabilities (Now)

Collaboration Tools	Security Services	Data Sharing
Science teams have found BIRN's Wiki hosting useful for building their communities and orienting new members. BIRN's email list manager makes it easy to share information with team members, fostering a sense of community and keeping members "in the loop."	BIRN's user registration website allows new users to sign up and obtain security credentials to access BIRN services. BIRN's online credential service stores user credentials so that they can be retrieved and used from any computer system to access BIRN services.	Data access software gives BIRN teams a simple way to share data on their systems with other team members. Data movement tools give team members ability to upload/download or transfer data from site to site. Metadata services allow teams to describe their data in scientific terms and keep track of what data exists and where to get it.

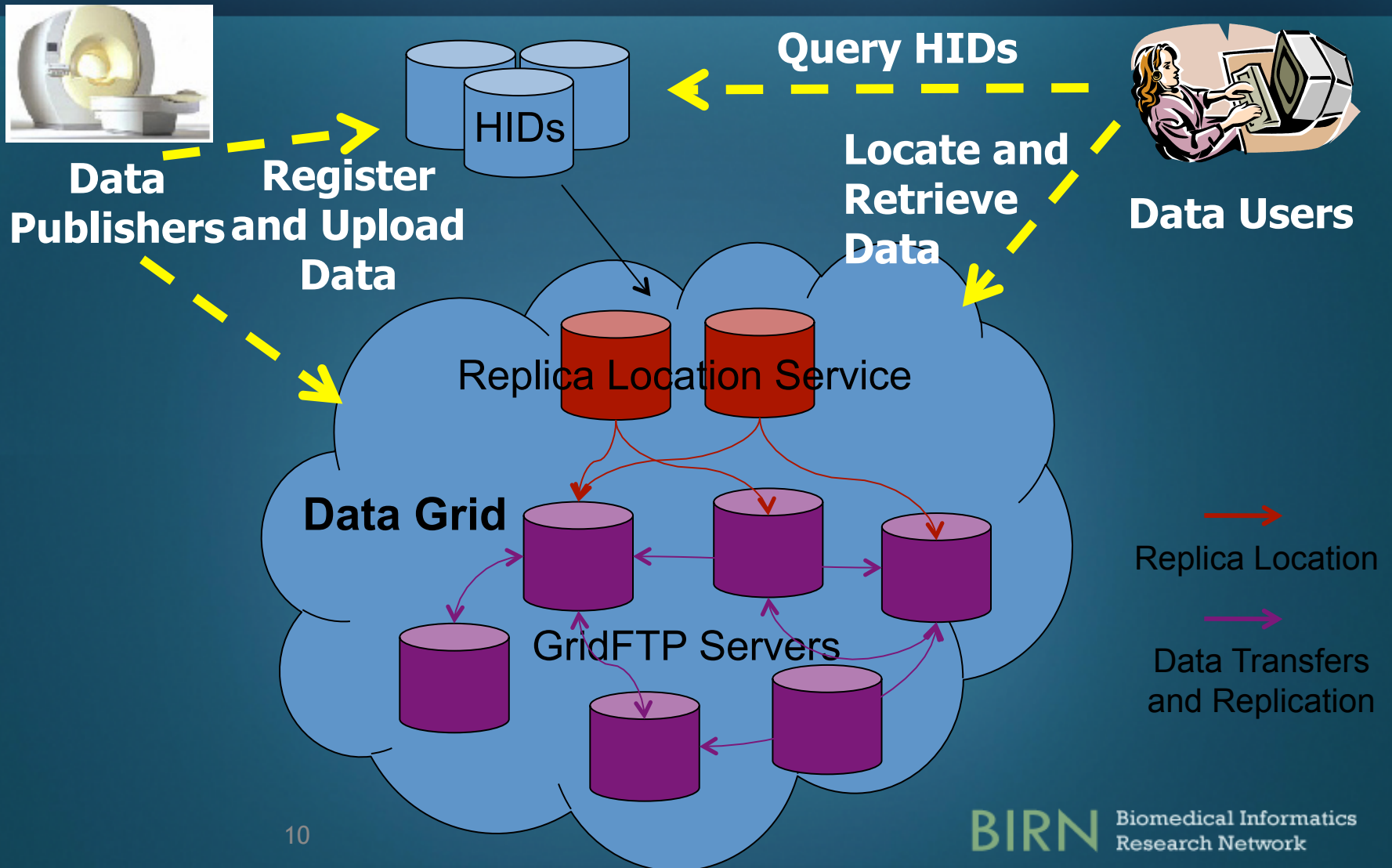
BIRN Capabilities (Coming Soon)

Collaboration Support	Data Sharing Features	
A group policy management service allows teams to define groups and assign BIRN service privileges (access control) to groups.	Data publication tools allow teams to upload data and metadata together, improving the accessibility of new data.	Our data access software supports the group access controls defined in the group policy management service.
An online capability registry allows users to browse and search for BIRN capabilities and data collections and allows teams to “advertise” the capabilities they provide.	A data mirroring service allows BIRN sites to mirror (copy and keep up-to-date) collections of data on local servers for improved accessibility.	A first release of query tools allows users to perform structured queries across multiple (heterogeneous) data sources.

BIRN Testbeds

- Function BIRN
 - Using Grid FTP
 - Data and tools transferred from old BIRN CC
 - Supplement on infrastructure
- Mouse BIRN
 - MBAT demos with new communities, including NPRC
- Morph BIRN
 - Data and tools supported

FBIRN Data Grid



User query:
find all male
patients over 50
with t1 scans

Source	Subject ID	Age	Gender	Scan Type
XNAT	OAS1_0266_MRI	51	M	f1
XNAT	OAS1_0934_MRI	51	M	f1
XNAT	OAS1_0207_MRI	51	M	f1
HID	000998262706	51	M	f1
HID	000998262706	52	M	f1
HID	000998041611	53	M	f1
HID	000913186207	53	M	f1
HID	000960528669	53	M	f1
HID	000913186207	54	M	f1
HID	000947193547	55	M	f1
XNAT	OAS1_0389_MRI	55	M	f1

ISI Mediator

SQL query

HID results

XML query

XNAT query

HID

SUBJECT...	SCORENAME	TO
000934691111	Handedness_left_spoon	0
000934691111	Handedness_left_toothbrush	0
000934691111	Handedness_left_total	0
000934691111	Handedness_left_broom	2
000934691111	Handedness_right_drawing	2
000934691111	Handedness_right_infine	2
000934691111	Handedness_right_match	2
000934691111	Handedness_right_scissors	2
000934691111	Handedness_right_spoon	2
000934691111	Handedness_right_toothbrush	2
000934691111	Handedness_right_total	20
000934691111	Handedness_left_writing	0
000934691111	Handedness_right_writing	2
000934691111	Mother's Education	(null)
000934691111	Number of Children	(null)

XNAT

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Human Imaging Database Oracle DB¹¹

EXtensible Neuroimaging Archive Toolkit

Web service API

Tracing Active Toolkit

New BIRN User Groups

- Cardio Vascular Research Grid - CVRG
 - Data sharing solution built on MEDICUS
 - Data integration
 - Working through detailed use case
- National Primate Research Center Consortium

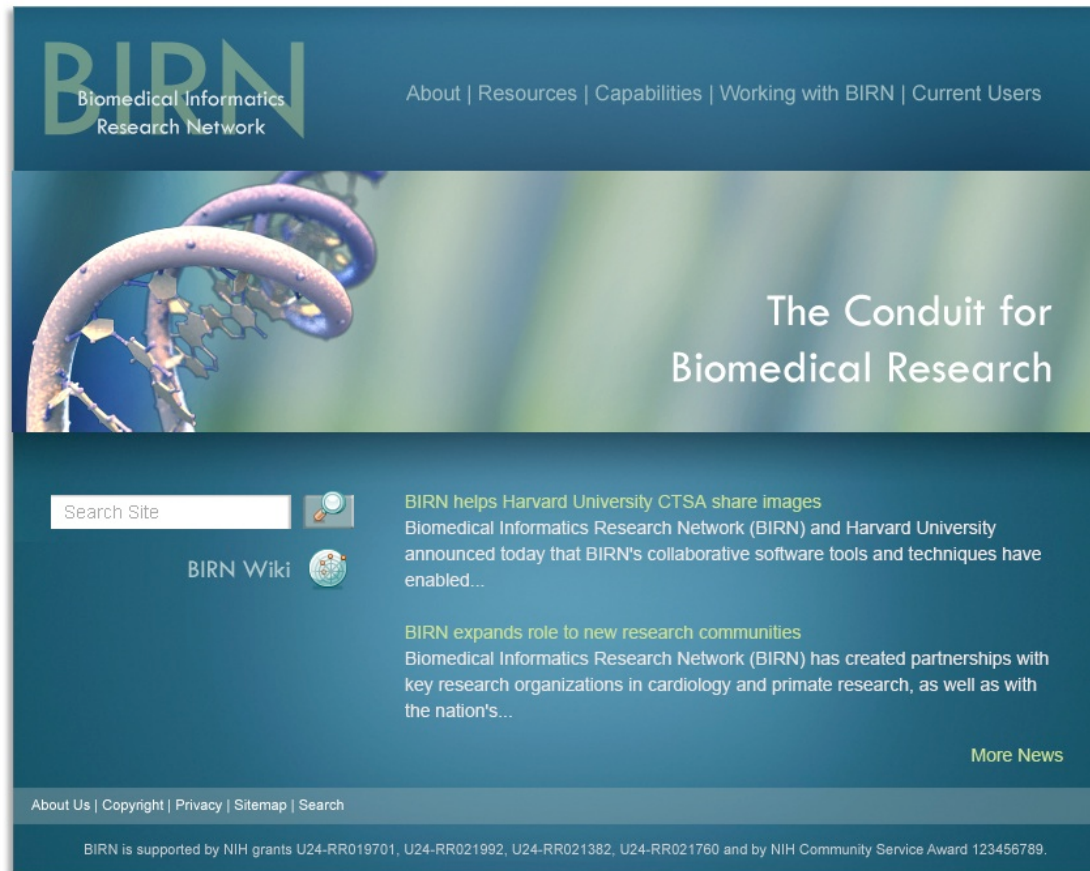
New BIRN User Groups

- National Database for Autism Research - NDAR
 - NDAR reps working with BIRN WGs
 - Following FBIRN/Grid FTP model
- CFIDS - foundation supporting chronic fatigue syndrome research
 - Sharing data between six sites
 - BIRN on their agenda for mid-Sept meeting
 - www.CFIDS.org

New BIRN User Groups

- Three projects are ROIs from the PA
 - Northwestern - Schizophrenia MRI and tool
 - UCI - Ontology project
 - UCSD - HeadIT - Electrophysiology data and tool
- Preliminary interactions
 - CTSA at Harvard, Chicago
 - National Eye Institute
 - National Institute of Neurological Disorders

BIRN website



BIRN website

- Launches October
- <http://www.birncommunity.org>