

cancer Biomedical Informatics Grid

caBIG: Strategic Directions

J. Robert Beck Fox Chase Cancer Center

> BRIITE September 23, 2004





Overview of this Hour

- 4 Identify strategic issues for caBIG
- 4 Review progress to date from the workspaces
- 4 Engage audience (you) in brainstorming goals for upcoming SLWG meeting in October









Two General Ways to Approach a Big Project

- Articulate a Vision and Drive Everything to the Vision
 - Manhattan
 - Apollo
 - Human Genome
- Step out into the Swamp and Look for Firm Ground
 - Most Projects





cancer Biomedical



caBIG Workspaces

- Clinical Trials Management Systems
- Integrative Cancer Research
- Tissue Banks and Pathology Tools
- Architecture (cross-cutting)
- Vocabularies and Common Data Elements (cross-cutting)
- Strategic {planning}
- Tech Transfer, Intellectual Property, etc.









Workspaces

CENTENNIAL CELEBRATION



Strategic Level Working Group

- Oversee activities of all workspaces
- Conduct strategic planning (1, 3, 5 year goals) for caBIG
- Keep the money flowing?





cancer Biomedical





cancer Biomedical Informatics Grid

Status of the Workspaces



Clinical Trial Management Systems Workspace

- Scheduled and executed more than a dozen teleconferences per month
- Held Face to Face meetings in Washington DC and Pittsburgh, with others scheduled
- Established active Special Interest Groups (SIGs) in:
 - caBIG Compatibility
 - Adverse Event Reporting
 - Structured protocol representation
 - Laboratory Interfaces
 - Financial Billing
 - CTMS/CDUS Reporting
- Issued Task Orders to participating Developer institutions for implementations of caBIG compatible software in:
 - Structured Protocol Representation (UPMC Cancer Center, PA)
- Involved the Commercial software community in the process, ensuring that caBIG compatibility will extend beyond the open source software developed as part of the project and providing Centers with multiple caBIG compatible choices
- Begun three projects to assess the caBIG compatibility options for existing systems, and three to pilot the implementation of new open source solutions





cancer Biomedical

Informatics Grid

caBIG

Integrative Cancer Research Workspace

- 7 Teleconferences a month for WG and SIGs
- Held Face to Face meeting in August
- Finalized or nearly finalized SOWs for 15 developer projects
- Finalized or nearly finalized SOWs for 4 adopter projects
- Cost proposals received from 7 developers, in progress for 5 developers
- Participants exposed to high-level overview on recommended approaches and technologies for caBIG compliance
- Close interaction with Cross-Cutting Workspaces





cancer Biomedical Informatics Grid

Tissue Banks and Pathology Tools Workspace

- 6 Teleconferences per month, a Face to Face will be held in Nov
- Specifications being developed by the Workspace for the exchange of pathology data
- Use cases collected from a variety of sources
- Development in planning stages for caTISSUE lite (UPMC, PA)
 - Solution for Cancer Centers with no online tissue bank access
- Development in planning stages for caTISSUE (WashU, MO)
 - Standard, caBIG compatible API package for sharing existing tissue banks
- Task order issued for development on caTIES (UPMC, PA)
 - A platform for extraction of structured data from full-text pathology reports





cancer Blomedica Informatics Grid

Architecture Cross-Cutting Workspace

- Held multiple teleconferences during the last 6 months
- Held one Face-to-Face meeting in July
- Planning next Face-to-Face in October
- Drafted and distributed caBIG Compatibility Guidelines. Working with the Domain Workspaces to gather feedback and incorporate into the document
- Playing a mentoring role with the Domain Workspaces
- Identifies and is closely working with the reference implementations in the Domain Workspaces in creating version 2 of the caGRID infrastructure
- Group evaluated and agreed on basic architectural standards for
 - Data communication formats
 - Query mechanisms
 - Data identification methods
 - Platform for grid communication





cancer Biomedical



Vocabularies and Common Data Elements Cross Cutting Workspace

- Regular BiWeekly Teleconferences with entire Workspace community (twelve meetings to date)
- First Face to Face Meeting was held July 19th, 2004 •
- Joint Face to Face Meeting with Architecture Workspace (70-80 participants) to be held in • Chicago, October 25-26, 2004
- There are three V-VCDE developer projects identified for first year: ۲
 - Integration and harmonization of MGI (Mouse Genome Informatics) consortium database and the NCI anatomical ontologies (Jackson Labs)
 - Integration and harmonization of Nutritional Epidemiology / Cancer database and the NCI Thesaurus
 - Integration and harmonization of the 'Lexgrid' programs, and HL7 CTS (Common Terminology Services) with caBIG
- **Current V-CDE Workspace Priorities** ۲
 - Work with Domain Workspaces to identify and recommend external data standards for caBIG
 - Implement CDE development and define vocabulary development governance
 - Work with Architecture Workspace to define the overall infrastructure for caBIG
 - Work with caBIG Leads and Workspaces to define caBIG compatibility







Climbing the Ladder a Few Rungs Upward

- What is the nature of the opportunity with caBIG?
- Where does caBIG fit in the informatics continuum?
- How can BRIITE help?





cancer Biomedical



What is Informatics?









Harnessing Bioinformatics

Biomedical Informatics Today

- Driven by Individual Laboratories
 - Little uniformity of design, rarely APIs
 - Little uniformity of data structures or elements
 - Little uniform usage of terminology
- Driven by Funding
 - Funding is miniscule part of R01/P01/SPORE
 - Informatics is not focus of funding methods







A Goal: Integrated Biomedical Research

fighting cancer • all day • every day IAL CELEBRATION

CENTENN



cancer Biomedical Informatics Grid

Harnessing Bioinformatics

Promise of caBIG

- Integration of Data and Tools
 - Data sharing through common pipes/pumps
 - Rapid development through open source
 - Information sharing with common vocabulary
- Future Results
 - Enhanced opportunity for discovery
 - Rapid deployment of advances in battle against cancer







Now, Let's Think about caBIG Together

- Groups of 5-8
- Take a topic:
 - Overall short term (1-3 year) goals for caBIG
 - Overall longer term (3-5 year) goals for caBIG
 - Specific Workspace goals
 - Architecture
 - Vocabularies and CDE
 - Integrative Cancer Research
- Report back in 20 minutes!





cancer Biomedical

Informatics Grid

caBIG

Ideas from Brainstorming





