

**AGNIS (A Growable Network
Information System)**

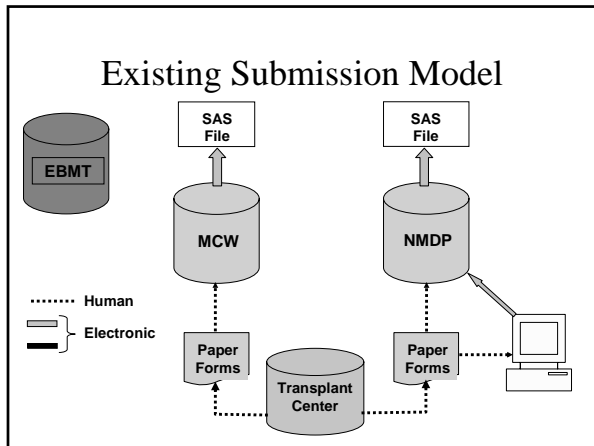
Ken Bengtsson
Manager, Clinical Informatics
Bioinformatics / NMDP

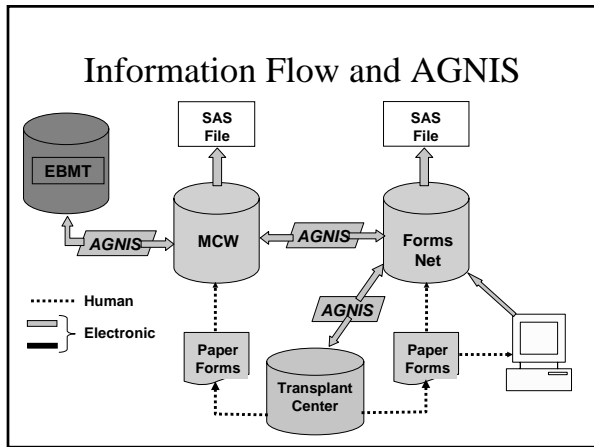
Agenda

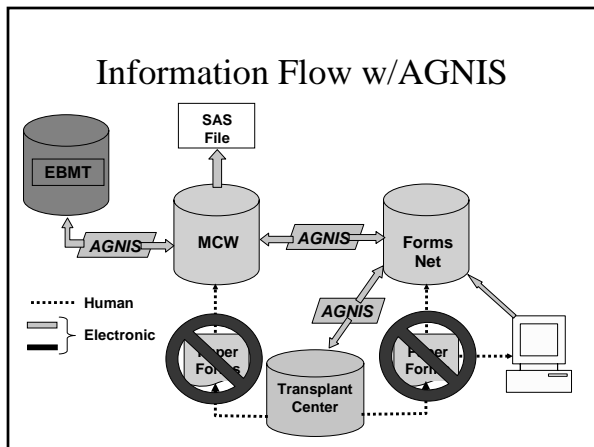
- Background
- Existing form submission model
- Information Flow and AGNIS
- Phase 1
- Phase 2
- System architecture
- Data elements
- Timelines

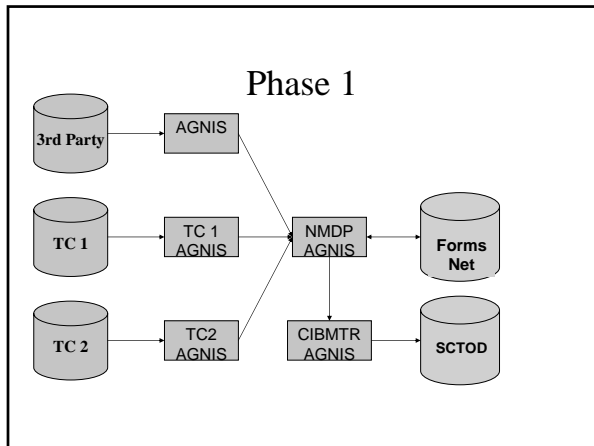
Background

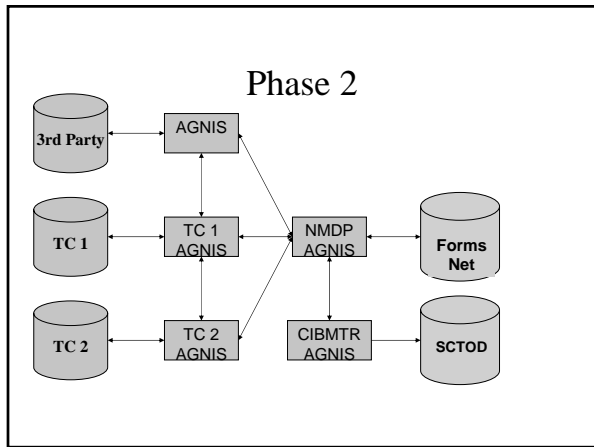
- Part of NIH Roadmap Initiative
- 12 projects funded
- Goal for all is to bring clinical outcomes data to researchers faster
- AGNIS has two goals:
 - Develop a system for sharing clinical data
 - Implement this system











- ### System Architecture
- Messaging life cycle
 - AGNIS system components
 - caBIG
 - caGrid
 - caDSR
 - caCORE
 - Globus

Messaging Lifecycle

- Similar to email
- Message (form) is put together at one address and sent to another.
- Upon receiving the message the receiver sends a acknowledgement.
- Message life cycle is now complete.
- Obviously AGNIS is a bit more complex...

caBIG™

- caBIG is a project of the NIH
- **cancer BI**oinformatics **Grid**
- Develop tools to help the cancer research community build applications to share data
- A number of these tools were used in creating AGNIS
- caBIG provides compatibility guidelines & certification as well as
- Data standards

caGRID™

- **cancer Biomedical Informatics Grid**
- The goal of caGRID is to develop applications and the underlying systems architecture that connects together data, tools, scientists and organizations in an open federated environment.
- Underlying service oriented infrastructure for caBIG
- Federated = computing practices that provide a global infrastructure that enables local access and administration

caGRID™

- caGRID also provides a directory for “nodes” or “services” to discover data on other nodes that are making their data available.
- Like the yellow pages.



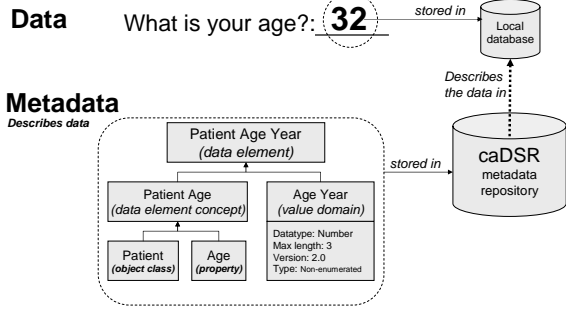
caDSR

- **cancer Data Standards Repository**
- Metadata repository and registry
- Based on the ISO/IEC 11179 standard for metadata registries
- Designed to integrate caCORE infrastructure
- Supports the development and deployment of Data Elements that are used as metadata descriptors, initially for NCI-sponsored research, now for an ever-widening group of users

caDSR - Data & Metadata

- Metadata is data about data
- Metadata describes the content, quality, condition, and other characteristics of data
- Example: If a question on a form reads: “Enter the Patient’s Age”
 - What is the data?
 - What is the metadata?

caDSR - Metadata Example



caDSR - How Data Elements are Used

- On Forms for data collection (CRFs)
- In Databases to describe database field attributes and constraints
- Information/UML Modeling
- APIs (Application Programming Interface)
- Projects
- In applications to describe UI widgets, validation rules, display name and format

caCORE & Globus®

- Toolkit that is made to function with caDSR
- Capable of code generation
- Globus is the security layer
 - Created by a separate open source group

Timelines

- Phase 1 - July 2, 2007
 - Two TCs and one 3rd party product
- Phase 2 - October, 2007
 - One international center
 - Existing sites set up as complete nodes
- Phase 3 - post October, 2007
 - Add additional sites as feasible

Questions?