AGNIS Introduction
Version 2.0

What is AGNIS

Mission:
Secure electronic submission and retrieval of Hematopoietic Cell Transplant form data

- Open Source
- Standards Based
- Sponsored by CIBMTR and NMDP

AGNIS→, A Growable Network Information System's Mission is secure electronic submission and retrieval of Hematopoietic Cell Transplant form data. AGNIS eliminates duplicate data entry activities because data will enter the electronic network once, with AGNIS facilitating subsequent distribution and synchronization between databases. AGNIS software, distributed under a public license at www.agnis.net, can be installed at a participating node in an AGNIS network.

AGNIS has been developed using and building upon open-source tools including Java, Apache Tomcat™, and Apache Axis2, as well as additional third-party libraries.

Data transmitted via AGNIS is defined as Case Report Forms (CRF's) in the metadata repository operated by the National Cancer Institute Center for Biomedical Informatics and Information Technology (NCI CBIIT), known as the cancer Data Standards Registry and Repository (caDSR). This is an ISO/IEC 11179 compliant metadata repository.

The sponsors of AGNIS are the National Marrow Donor Program (NMDP) and the Center for International Blood and Marrow Transplant Research (CIBMTR). The sponsors collaboratively facilitate multi-center research in Hematopoietic Cell Transplant (HCT) through systematic prospective data collection and through sponsorship/management of multi-center clinical trials. More than 450 HCT programs, many with their own electronic databases, submit data to the databases of NMDP or CIBMTR. These programs comprise the target user base of AGNIS.

AGNIS Key Features

- Security Standards
  - Secure Communication Standards (TLS, X.509)
  - Public Key Infrastructure, Digital Certificates Privacy, Integrity, Authentication
- Communication Standards
  - Web Service Standards (SOAP, WSDL)
  - Platform Neutral
  - Syntactic Interoperability
- Data Standards
  - Common Data Elements (CDEs)
  - Unambiguous Data Interpretation
  - Semantic Interoperability

Related projects provide security, encryption, data storage and code building toolsets that have been incorporated into AGNIS. The data communicated by AGNIS are specified by collections of data elements, defined and managed in the NCI cancer Data Standards Registry and Repository (caDSR).

Data Standards

- Benefits
    - Interpret data clearly and unambiguously
    - Improve consistency and efficiency of data collection
    - Increase compatibility and reusability of data
    - Automate data analysis
    - Reduce duplication of effort as standard matures
    - Rigorously define HSCT data collection standards
- Effort Required
    - Create standardized data elements
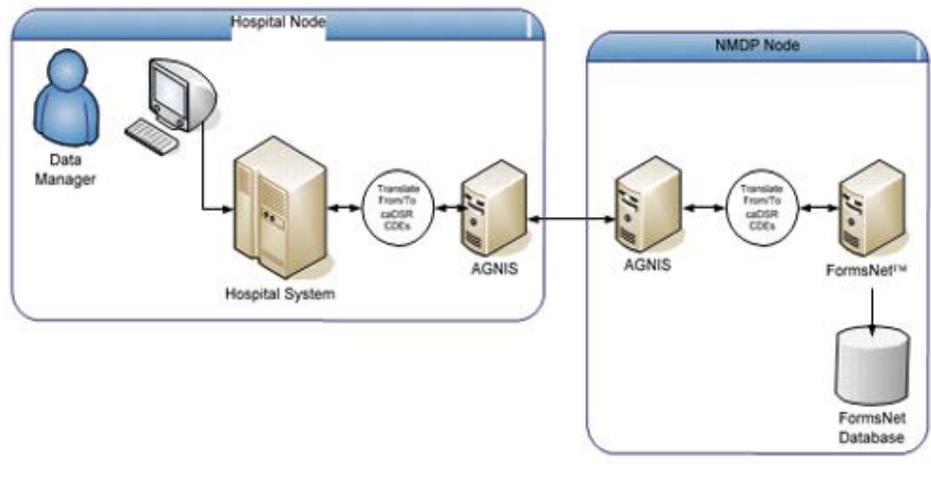   - Translate between native and standardized data

Roles

- Submitter (previously called Originator)
  - Electronically submit forms to FormsNet 3 via AGNIS
  - First available with AGNIS 1.2.0, released 2009-03
  - See AGNIS Release Notes for a current list of supported forms
    - Links to AGNIS Release Notes are at the back of this presentation
- Publisher
  - Publish completed forms to AGNIS repository
- Retrieval (previously called Subscriber)
  - Retrieve completed forms from AGNIS repository
  - First available with AGNIS 2.0.0, released 2010-01
  - See AGNIS Release Notes for a current list of forms available for retrieval

There are three roles used within AGNIS.

These roles are described in more detail on the following slides
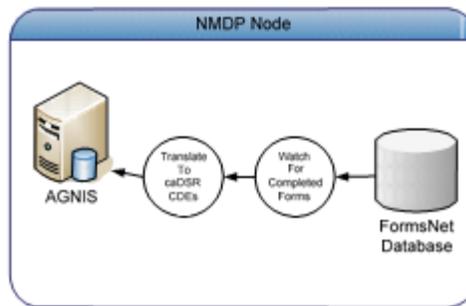
Submitter

- Submitting data to AGNIS

This graphic illustrates an expected common usage of AGNIS in the Submitter Role from start to finish.

(1) Data are entered in the hospital system, which are then translated into caDSR common data elements (CDEs) and transmitted over the Internet to the secure Be the Match® (formerly known as NMDP) AGNIS web service.

(2) The data is received by NMDP AGNIS and translated from CDEs to the local format.

(3) The FormsNet 3™ application then performs field- and form- level validation on the data and stores forms data in the FormsNet database.

(4) AGNIS returns the result of the validation back to the submitter.

Publisher

- Publish validated, completed forms to AGNIS repository

This graphic illustrates an expected common usage of AGNIS in the Publisher Role from start to finish. This is an internal operation necessary for the retrieval of forms.

(1)) Once the form is error-free, validated, and complete, the form data are extracted from the FormsNet database.
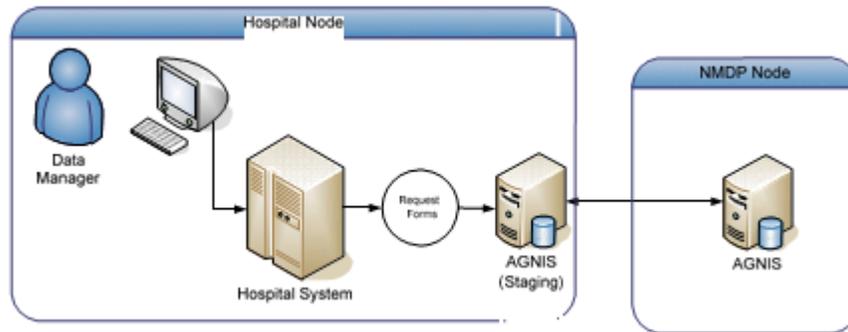
(2) Form data is translated into caDSR common data elements (CDEs)

(3) The form data is then stored in the AGNIS repository database.

In this case FormsNet 3™ is the client publishing to the AGNIS Repository

Retrieval

D Retrieve completed forms from AGNIS repository

This graphic illustrates an expected common usage of AGNIS in the Retrieval Role from start to finish.

(1) A Hospital's AGNIS Client requests their newly completed form data

(2) This is retrieved from the AGNIS Repository (where it was previously published by FormsNet 3™ and translated into caDSR common data elements (CDEs))

(3) The data is returned to the Transplant center into a data structure like the AGNIS repository,

(4) The hospital acknowledges receipt of data.

In addition to retrieval of newly completed form data, a client may also request retrieval of a specific completed form.

Be aware that AGNIS will retrieve supported forms no matter what the source of their entry, forms entered directly into FormsNet 3™ by a transplant center, forms submitted by mail or fax and entered centrally, and forms submitted via AGNIS will be included in a retrieval.

Also be aware that forms will be returned as the form revision current when the form was submitted. For instance if a Pre-Transplant Essential Data form was submitted as revision 1 of the 2400, it will be returned by AGNIS with a 2400 revision 1 format.

For More Information

◻ www.AGNIS.net
- AGNIS Release Notes
  - ◻ https://sites.google.com/site/agnisdevelopment/the-team
  - ◻ http://www.cibmtr.org/DataManagement/TrainingReference/AGNIS/ReleaseNotes
- AGNIS Certification presentation
  - ◻ http://agnis.net/WorkArea/DownloadAsset.aspx?id=2147483732

◻ Join the AGNIS Google Group
- See the link at www.AGNIS.net
- See instructions at www.CIBMTR.org > Data Management > Training and Reference > AGNIS

◻ Email us at AGNISSupport@nmdp.org