5. Advanced Topics

5.1 Encrypted Data

Data in the observation_blob field of the OBSERVATION_FACT table can be encrypted , using any method that is desired. (The blob field is not used by the core software and can be used in application-specific ways.) The legacy i2b2 workbench contains an encryption/decryption implementation using AES. It is available here:

https://community.i2b2.org/wiki/display/WB/Workbench+Software

Also, site-specific identifiers are often encrypted in the **PATIENT_MAPPING** table. The legacy Identity Management (IM) cell also provides an AES implementation to encrypt and decrypt these identifiers through an i2b2 API. More information can be found here:

- IM Install: https://community.i2b2.org/wiki/display/getstarted/Chapter+13.+Identity+Management+%28IM%29+Cell+Install
- IM Messaging: https://www.i2b2.org/software/files/PDF/current/IM_Messaging.pdf
- IM Architecture: https://www.i2b2.org/software/files/PDF/current/IM_Architecture.pdf
- IM Design: https://www.i2b2.org/software/files/PDF/current/IM_Design.pdf

5.2 Multiple Fact Tables

Starting with release 1.7.09, the i2b2 software supports multiple fact tables. This enables, for example, diagnoses to be stored in one fact table, laboratory tests in a second fact table, and clinical notes in a third. This might be helpful to simplify data updates or for performance reasons in large databases. Details of how to configure i2b2 to use multiple fact tables is at

https://community.i2b2.org/wiki/display/MFT/Multi-fact+Table+Home?preview=%2F339480%2F339493%2Fmultifact-setup-guide.pdf

5.3 Working with OMOP Data

The Observational Medical Outcomes Partnership (OMOP) CDM is another widely adopted data model. Rather than a central fact table, the OMOP CDM uses separate tables for each data domain: procedures, condition, drug, measurement, observation, etc. The multiple fact table feature in i2b2 can be used to treat each OMOP table as a separate fact table, enabling i2b2 to run the OMOP CDM with the appropriate i2b2 ontology configuration. A description of this is at

https://community.i2b2.org/wiki/display/OMOP/OMOP+Home

5.4 Loading Data into the i2b2 CDM

The i2b2 tranSMART Foundation ETL Working Group has assembled a set of resources, including documentation and software, to assist in loading data into i2b2, which is at

https://community.i2b2.org/wiki/display/IWG/ETL+Working+Group