

MySQL ICAT

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Basic Tables

- MySQL Conversion Toolkit
- Connects to the Oracle database and builds the same table structures in MySQL.
- tables, indexes, foreign key constraints



Moving Parts

- ***Triggers***
- **AIR_DATASET_TRG** - Updates ICAT_AUTHORISATION table when a new a dataset is inserted
- **AIR_INVESTIGATION_TRG** - Updates ICAT_AUTHORISATION table when a new a investigation is inserted
- **INVESTIGATION_DATE_TRG** - Sets days_until_public_release when a new investigation is inserted

- ***Procedures***
- **SET_ICAT_AUTH_DATA_ENTITIES** - grants permissions to view investigations and datasets
- **SET_INVESTIGATION_DATES** - Updates investigation times
- **WRITE_LOG_INTERNAL** - writes error messages to LOG_TABLE
- **WRITE_LOG** - Calls WRITE_LOG_INTERNAL with specific flag for non-exception set
- **WRITE_EXCEPTION** - Calls WRITE_LOG_INTERNAL with specific flag for exception set



PL/SQL -> SQL:2003

- Looping and cursors different in PL/SQL and SQL:2003 – most moving parts rewritten
- *“For example one of the procedures grabs a subset of data into a cursor using the SELECT FOR UPDATE clause and then does an update on the row in the cursor using WHERE CURRENT OF. In MySQL cursors are read only so no update can occur, this had to be worked around by ditching the SELECT FOR UPDATE and updating the row based on the id currently held in the cursor.”*



Sequences

- ICAT uses Oracle Sequences for PKs
- No Sequences in MySQL
- Simplest and most portable solution is sequence tables
- Similar performance due to JPA allocation/caching



Where are we?

- Completed *very* basic testing
 - Looks OK
- Need to run full test suite



Why?

- Solves problem of Oracle licence for virtual machine distribution
- Very limited work
- SQL2000 so should be portable



Want more?

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