comments_sql_gen

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Usage

The tool is invoked by entering *comments_sql_gen* on the command line followed by one argument which is a file specification for the updated load file you want to process. For example:

```
comments_sql_gen a3d1145dy.lod
```

The input load file will generally have been created using the *recreate_load_file* command which recreates a load file based on the database contents for a particular reference file. The load file can then be edited to update the comments. No other keywords in the load file should be changed. Changing any of the mode keywords will invalidate the SQL that is produced by this tool.

There are also two environment variables that must be defined in order for the tool to perform some database actions using OpenSTDB. These environment variables are:

- CDBS_SERVER - set to the database server name (in uppercase)
- CDBS_DB - set to the CDBS database name (in lowercase)

The output will be a single SQL file which, when executed will update the appropriate database tables with the new comments contained in the load file. The file will be named comments_delivery<number>.sql where <number> will be the delivery number found in current version of the file-level relation in the database. For example:

```
comments_delivery123.sql
```

The tool will also output a line indicating the input file currently being processed to stdout.

```
Processing a3d1145dy.lod ...
```

It will also write messages indicating errors, if they occur, to stdout. Upon detection of an error the task is terminated.

Algorithm/Module Description

The tool consists of a single file with several functions. It also calls functions from the loadutils library, the loadfile library and the OpenSTDB library. For each load file, the following steps occur:

- The load file is read into an internal structure using the *read_loadfile* function from the loadfile library. This allows for the load file data to subsequently be referenced using the loadfile library functions.
- Next, SQL is generated to update the file-level and row-level relations in the database based on the file name and mode keywords in the load file. Note that for expanded load files, each of the file-level records associated with the reference file will be updated with the single comment in the load file header section.

The row-level SQL is as follows:

```
update  <instrument>_row set comment = <comment>
where   file_name = <file_name>
        and mode_keyword1 = <mode_keyword1>
        and mode_keyword2 = <mode_keyword2>
        ...
        and mode_keywordN = <mode_keywordN>
```

The file-level SQL is as follows:

```
update  <instrument>_file set comment = <comment>
where   file_name = <file_name>
```

The <file_name> is read from the header of the load file and the <mode_keyword> values are read from the rows of the detailed section of the load file. The file-level comment and row level comments are read from the header and the detailed sections respectively

Testing

The test script *comments_sql_gen.sh* is available to test the *comments_sql_gen* tool. The test script is invoked by entering its name. It is assumed that you are running the script from the cdbs/test/script directory and that your data is in the cdbs/test/data directory and that a cdbs/test/data/tmp directory exists. The script uses following files:

- unex-hrs-init.lod - this file is an example of an initial unexpanded load file.
- unex-hrs-new.lod - this is the same load file as above but with the comments updated.
- ex-hrs-init.lod - this file is an example of an initial expanded load file.
- ex-hrs-new.lod - this is the same load file as above but with the comments updated.

Note that these files are not intended to be accurate examples of CDBS load files but are only intended to demonstrate the various program paths.
The following steps will take place during the test:

- *cdbs_sql_gen* will be run on unex-hrs-init.lod which will create the file cdbs_delivery301.sql. The sql file will be executed to load the values into the database.
- The database will be queried to get the comments associated with the reference file loaded by unex-hrs-init.lod. The results of the query will be saved in unex-init.dat
- *comments_sql_gen* will be run on unex-hrs-new.lod which will create the file comments_delivery301.sql. The sql file will be executed to load the values into the database.
- The database will be queried to get the comments associated with the reference file loaded by unex-hrs-new.lod. The results of the query will be saved in unex-new.dat
- *cdbs_sql_gen* will be run on ex-hrs-init.lod which will create the file cdbs_delivery302.sql. The sql file will be executed to load the values into the database.
- The database will be queried to get the comments associated with the reference file loaded by ex-hrs-init.lod. The results of the query will be saved in unex-init.dat
- *comments_sql_gen* will be run on ex-hrs-new.lod which will create the file comments_delivery302.sql. The sql file will be executed to load the values into the database.
- The database will be queried to get the comments associated with the reference file loaded by ex-hrs-new.lod. The results of the query will be saved in ex-new.dat
- unex-init.dat will be differenced against unex-new.dat and ex-init.dat will be differenced against ex-new.dat to show that the comments have been updated in the database