

Uploading SCTDAQ results to the SCT Database

Dave Robinson, Cambridge

SCT Week March 2003

The ORACLE tables for SCTDAQ data were implemented some time ago by Didier/Philippe.

To upload SCTDAQ data into the database, you must use the DBUpload.cpp script which has been distributed with SCTDAQ since v3.34 (in the sctdaq/macros folder).

DBUpload.cpp is a simple wrapper to a java application, and the java application performs all the work.

The java application is not distributed with SCTDAQ, it must be downloaded from

<http://www.hep.phy.cam.ac.uk/~silicon/jSCTDAQ.html>

Uploading SCTDAQ Data

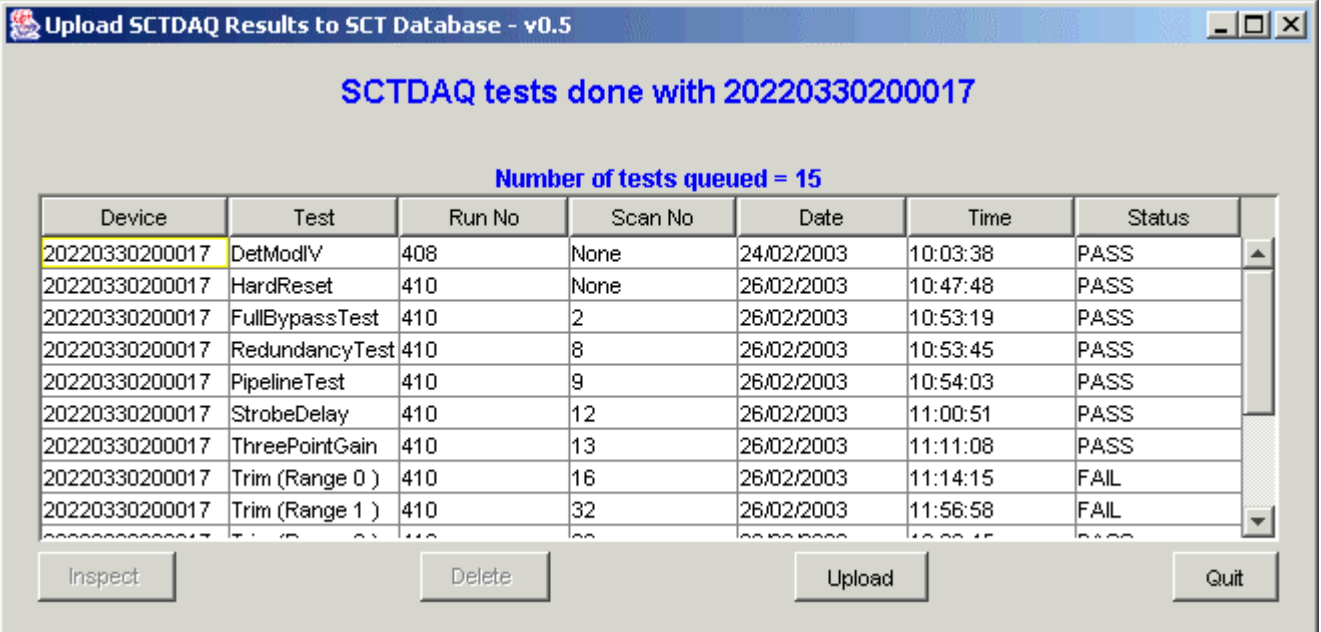
Type `.x DBUpload.cpp(< argument >)` in the ROOT session window of SCTDAQ (Rint)

Eg:

`.x DBUpload.cpp("20220330200017_20030226.txt")`
- Upload tests listed in a single data file

`.x DBUpload.cpp("20220330200017")`
- Upload all tests on module 20220330200017, taken on any date

`.x DBUpload.cpp()`
- Upload all tests on all modules taken TODAY



Device	Test	Run No	Scan No	Date	Time	Status
20220330200017	DetModIV	408	None	24/02/2003	10:03:38	PASS
20220330200017	HardReset	410	None	26/02/2003	10:47:48	PASS
20220330200017	FullBypassTest	410	2	26/02/2003	10:53:19	PASS
20220330200017	RedundancyTest	410	8	26/02/2003	10:53:45	PASS
20220330200017	PipelineTest	410	9	26/02/2003	10:54:03	PASS
20220330200017	StrobeDelay	410	12	26/02/2003	11:00:51	PASS
20220330200017	ThreePointGain	410	13	26/02/2003	11:11:08	PASS
20220330200017	Trim (Range 0)	410	16	26/02/2003	11:14:15	FAIL
20220330200017	Trim (Range 1)	410	32	26/02/2003	11:56:58	FAIL
20220330200017	Trim (Range 2)	410	64	26/02/2003	12:00:15	PASS

NOTE: For subsequent calls to DBUpload in the same ROOT session, use `.x DBUpload(< arg >)` instead of `.x DBUpload.cpp(< arg >)`

The Technical Details

Uses variables defined in sctdaq/macros/parameters.h

```
# define RESULTS_DIRECTORY "D:\\sctvar\\results\\"  
# define UPLOAD_DIRECTORY "D:\\sctvar\\upload\\"
```

- Reads result file(s) from RESULTS_DIRECTORY
- if the environment variable ARCHIVE_DIRECTORY is defined on your PC, reads test files and raw data files from that directory instead, and performs path substitutions for the various rawdata files:

Eg:

```
<RESULTS_DIRECTORY> 20220330200013_RC_297_12.txt  
to  
<ARCHIVE_DIRECTORY> 20220330200013_RC_297_12.txt
```

- Processes file(s) for compatibility with java upload routines, eg
 - splits result files into separate test files
 - tabs -> spaces
 - many corrections for incompatibilities with older versions of SCTDAQ
 - processing/merging of raw data files
 - verification of key data words
- Allows pre-upload inspection of data, and option of not uploading redundant or rubbish data files
- Bookkeeping to ensure you don't upload the same test more than once

Pre-upload Inspection of Data

Upload SCTDAQ Results to SCT Database - v0.5

SCTDAQ tests done with 20220330200017

Number of tests queued = 15

Device	Test	Run No	Scan No	Date	Time	Status
20220330200017	DetModIV	408	None	24/02/2003	10:03:38	PASS
20220330200017	HardReset	410	None	26/02/2003	10:47:48	PASS
20220330200017	FullBypassTest	410	2	26/02/2003	10:53:19	PASS
20220330200017	RedundancyTest	410	8	26/02/2003	10:53:45	PASS
20220330200017	PipelineTest	410	9	26/02/2003	10:54:03	PASS
20220330200017	StrobeDelay	410	12	26/02/2003	11:00:51	PASS
20220330200017	ThreePointGain	410	13	26/02/2003	11:11:08	PASS
20220330200017	Trim (Range 0)	410	16	26/02/2003	11:14:15	FAIL
20220330200017	Trim (Range 1)	410	32	26/02/2003	11:56:58	FAIL

Inspect Delete Upload Quit

Data Viewer

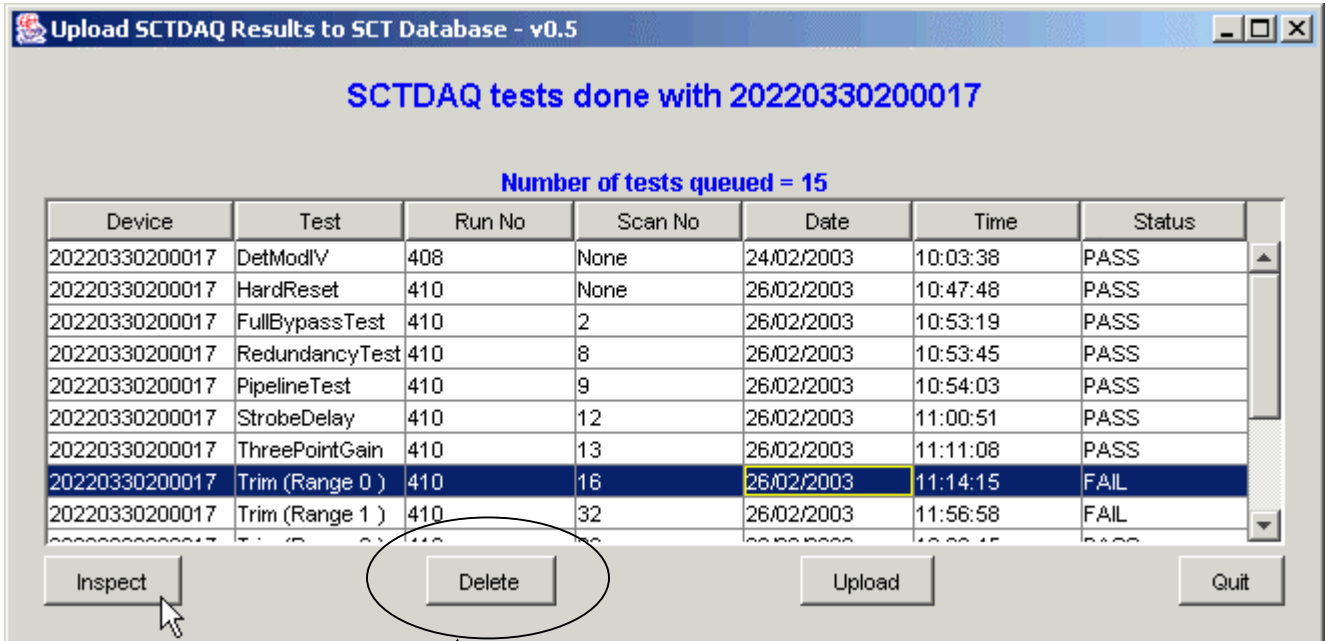
20220330200017

Test type: Trim (Range 0)

```
DEFECT NAME : TR_NOTRIM
FIRST CHANNEL : 452
LAST CHANNEL : 452
#
%Defect
DEFECT NAME : TR_NOTRIM
FIRST CHANNEL : 1318
LAST CHANNEL : 1318
#
#3 defects found
#
%TEST Rawdata
FILENAME : D:\sctvar\upload\20220330200017_tr0_20030226.zip
#
%Web link
DESCRIPTION : Plots (postscript)
URL : http://www.hep.phy.cam.ac.uk/si-bin/getfile.pl?file=20220330200017_TrimRangePlot_
#
#
```

Close

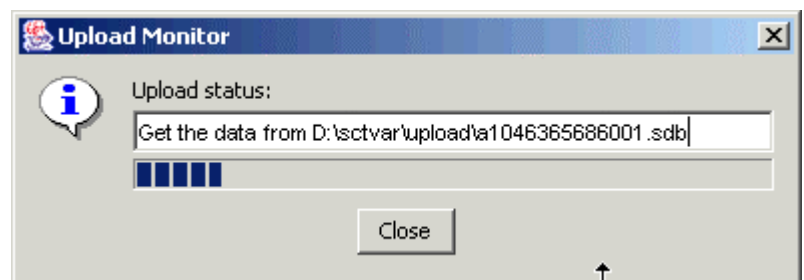
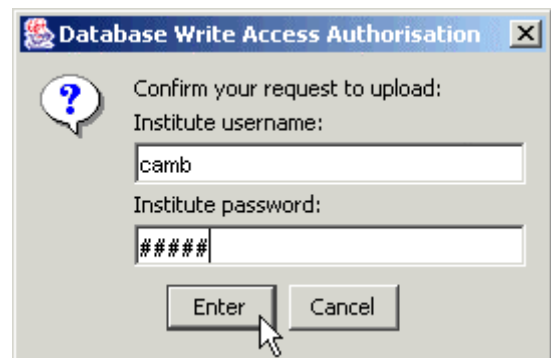
Removal of 'rubbish files'



Click on 'Delete' after selecting the test(s) you do not wish to upload

Uploading

Click on 'Upload' to upload all tests listed in the spreadsheet. You are prompted for your username and password before the upload starts



Bookkeeping

You can repeat the same call to DBUpload but data will not be uploaded twice. The application maintains a record of all successful uploads in `UPLOAD_DIRECTORY/bookkeeping/<serialno>.uploads`

Raw Data

Raw data (eg RC files, trim files etc) are zipped by the application before upload. There are two reasons for this:

- The RC files are too big (44kB, limit is 32kB) and require compression.
- The trim scans produce both a trim file and mask file, but only one raw data file is permitted per test. Therefore the 2 files are zipped to a single archive before upload.

Note also the ROD module configuration file is uploaded (as a zip) as raw data to the TimeWalk scan (since the config file is generated after the TimeWalk scan, and this scan has no raw data of its own)

Note the reporting GUI automatically unzips raw data files for you when they are downloaded...

Uploading Barrel Hybrid SCTDAQ Data

Download DBUpload_Barrel_Hybrid.cpp from

<http://www.hep.phy.cam.ac.uk/~silicon/jSCTDAQ.html>

Install it in the macros directory of the SCTDAQ distribution, and use that instead of DBUpload.cpp

You of course use the visible barcode serial number for Hybrid data, and the java application will make the appropriate serial number substitution before upload.

Note as a 'safety check' that you are not mixing module and hybrid data with the same serial number, the application will generate a warning if your device type is not set to 'Barrel_Hybrid' in your sctvar/config/st_system_config.dat file.

Availability

Available to download and use now from

<http://www.hep.phy.cam.ac.uk/~silicon/jSCTDAQ.html>

You can also download the following:

- DBUpload.cpp (if your SCTDAQ distribution version is < 3.34)
- DBUpload_Barrel_Hybrid.cpp (if you are uploading barrel hybrid data)

Please read the installation instructions and user guide carefully, and note particularly that you require the latest version of java on your PC

- *a java version prior to 1.4 will not work!*