

Project Update

RIKEN/RBRC

Itaru Nakagawa

Postgres-SQL

On 2022/09/02 21:58, Martin Purschke wrote:

Hi Itaru,

it is not possible to access the sPHENIX database server in 1008 (db1.sphenix.bnl.gov) without tunneling through the firewall - that's for good reasons; we don't want to have to defend the DB against the entire Lab. The tunneling allows you to run local ad-hoc queries locally on your machine but this is not easily possible from the machines in the SiLab in an unattended fashion.

In the PHENIX past we have set up local psql servers for such purposes (like in Bldg 830 where the TEC was built). Then that DB could easily be migrated to the eventual DB server in 1008.

Although I have never set this up myself, the PHENIX DB stored binary blobs (for PdbCal), which is no different from storing pictures or any other binary content. This is supported in postgres, and in any case, there is no point in using anything but postgres since that's what we will use.

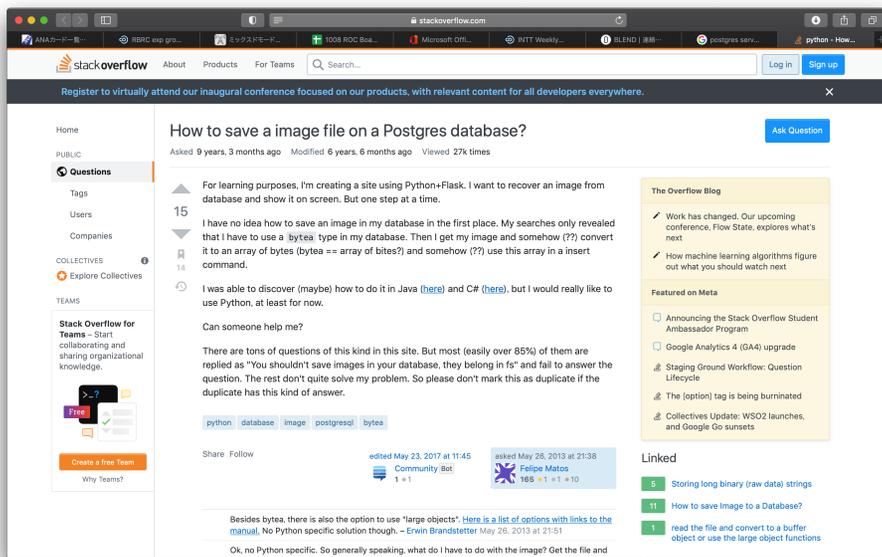
So please set yourself up with a DB server on one of the machines in the SiLab, like the inttdaq machine (the impact is minimal).

I'm taking the day off; back after the long weekend.

Martin

- Martin's suggestion is not to use existing pSQL server in 1008 from silicon lab.
- We should install pSQL in the local server to avoid non-trivial security tunneling.
- Migration the database from local server to 1008 server can easily be done when we move to 1008.

Saving/Retracting Image Files in pSQL



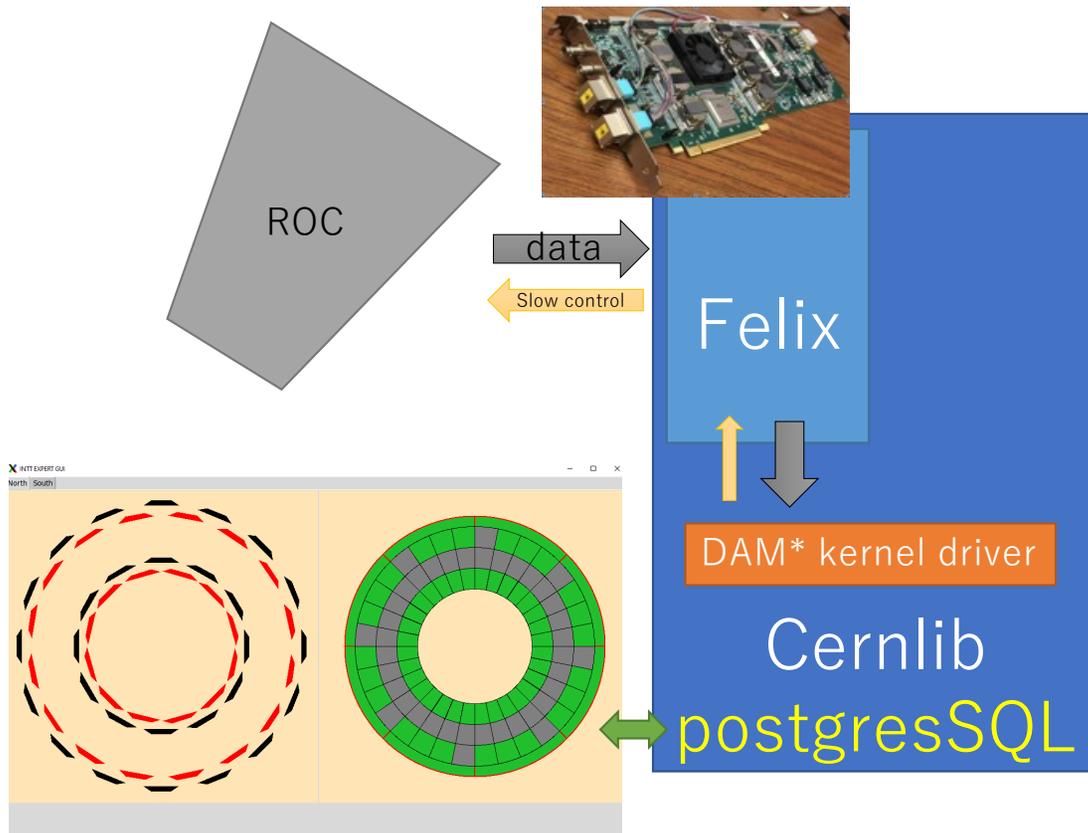
Postgres-SQL supports binary BLOB. Maybe this is a good way to keep the database in history order from QA and even during the run (calibration database).

```
postgres=# create table test_blob2 (blob_test1 bytea, blob_test2 bytea, blob_test3 bytea, id int, address varchar, phone int, name varchar);
CREATE TABLE
postgres=# \d+ test_blob2;
          Column          |      Type      | Collation | Nullable | Default | Storage | Stats target | Description
-----
 blob_test1               | bytea          |           |          |         | extended |              |
 blob_test2               | bytea          |           |          |         | extended |              |
 blob_test3               | bytea          |           |          |         | extended |              |
 id                       | integer        |           |          |         | plain    |              |
 address                  | character varying |           |          |         | extended |              |
 phone                    | integer        |           |          |         | plain    |              |
 name                     | character varying |           |          |         | extended |              |
postgres=#
```

It may be nice to develop graphic user interface either on a browser or python program which retracts plots.

<https://stackoverflow.com/questions/16763904/how-to-save-a-image-file-on-a-postgres-database>

Load map Towards 1008 DAQ Configuration



My proposal is to Install postgres-SQL to Felix server-2 as well as cern library as a transition to Felix base data acquisition.

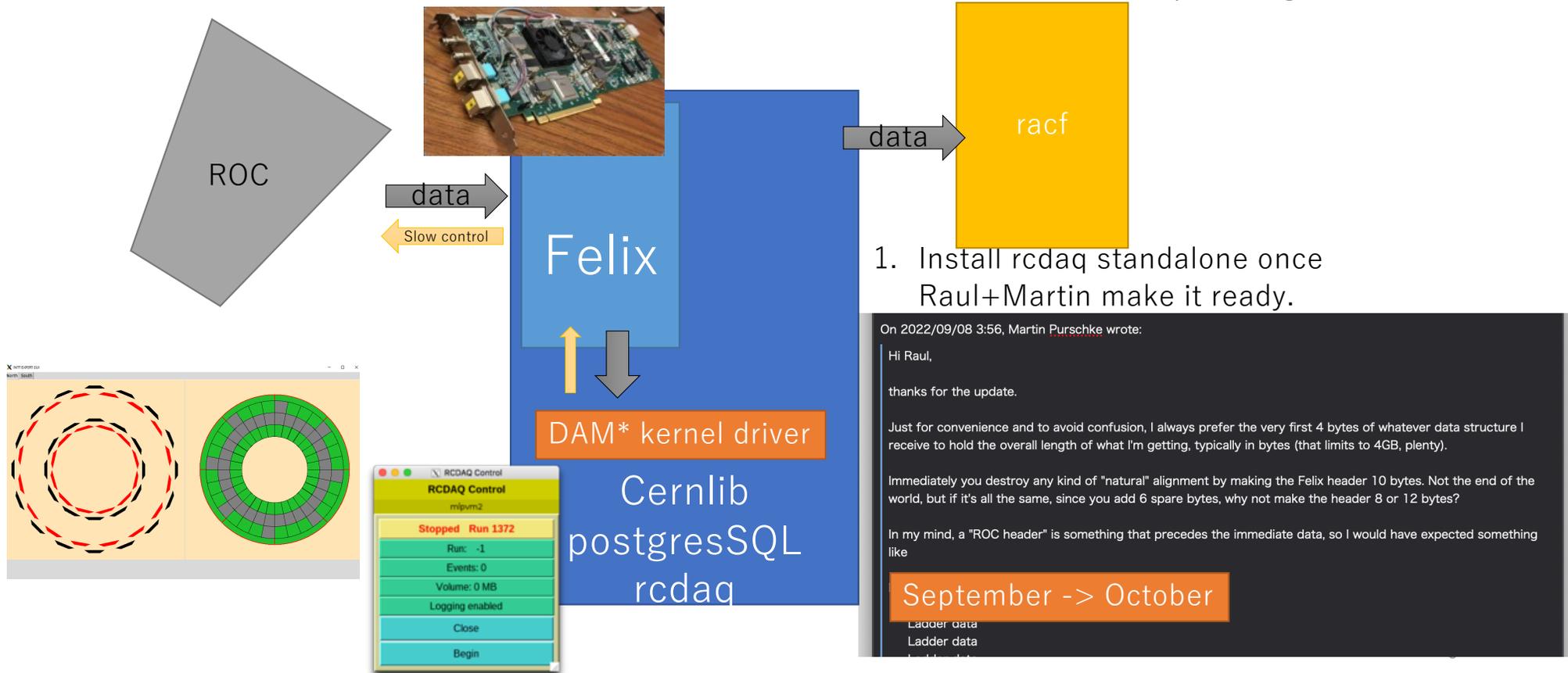
We need a volunteer to install postgres-SQL.

The first priority is the barrel test, but we would like to proceed in parallel.

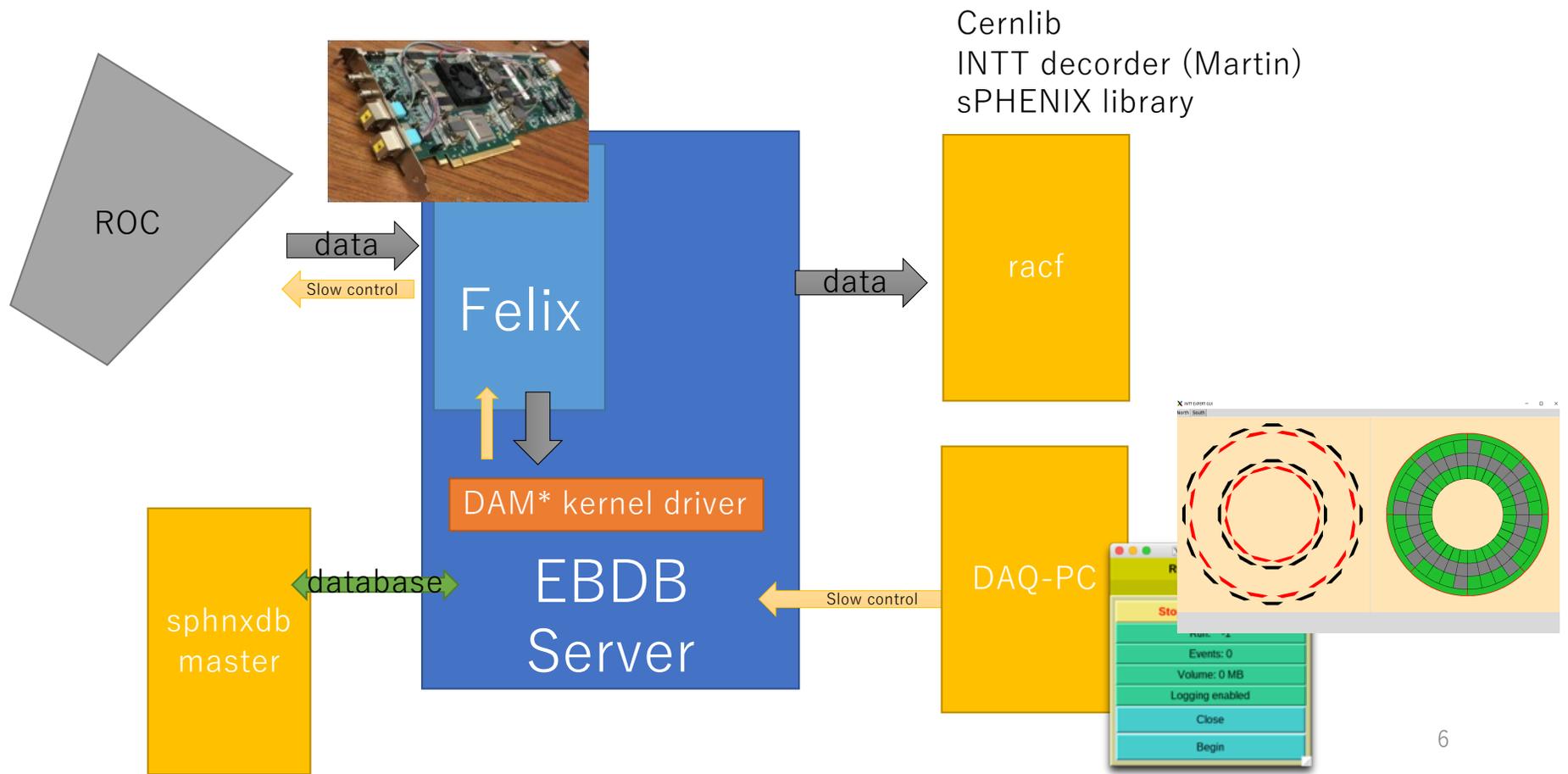
September

Load map Towards 1008 DAQ Configuration

Raul+Martin is now started optimizing the data format.



1008 DAQ Configuration



Packet ID New Proposal

Arm	ROC	FELIX	Packet-ID
South	0	0	3001
	1		
	2	1	3002
	3		
	4	2	3003
	5		
	6	3	3004
	7		
North	0	0	3101
	1		
	2	1	3102
	3		
	4	2	3103
	5		
	6	3	3104
	7		

Production Beam Clock Boards Exporting



- Finally, shipping is now scheduled on Sept. 12th (Monday).

- Rejected at US custom for supplemental materials.
- The additional materials are ready.