CSC TrackFinder shift Manual. (July 2006)

Questions/comments: dan.holmes@cern.ch
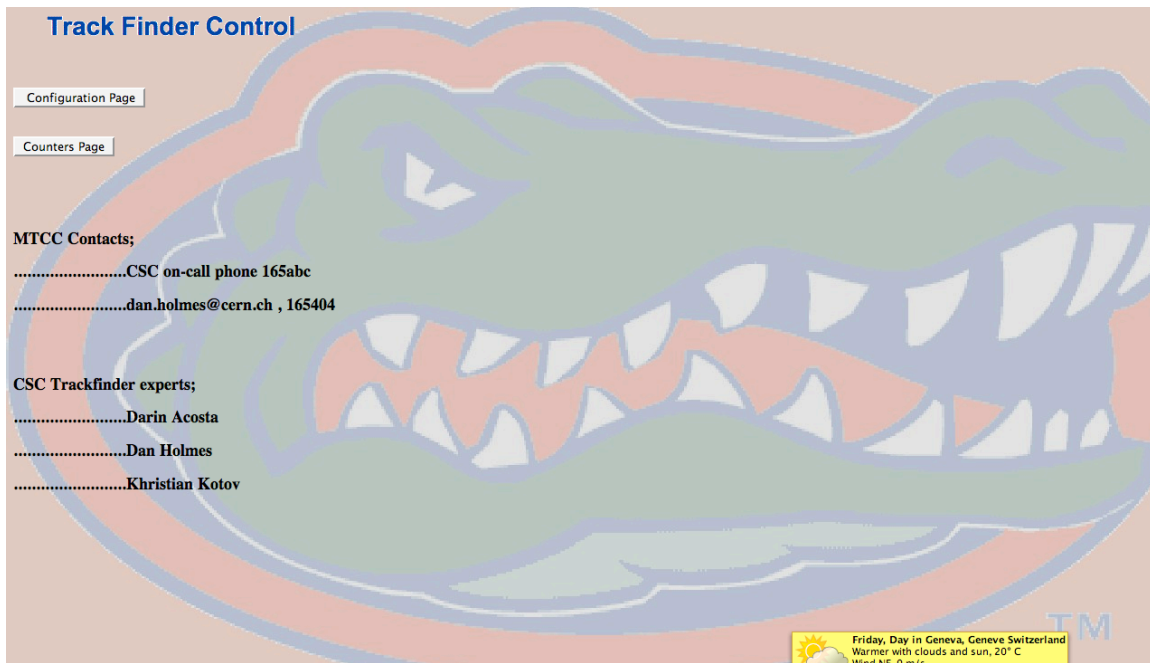Panic: (a) CSC shift leader phone
                          (b) Dan's phone: 165404 (CERN)

Get the Hyperdaq Control page;

http://emutf:40401
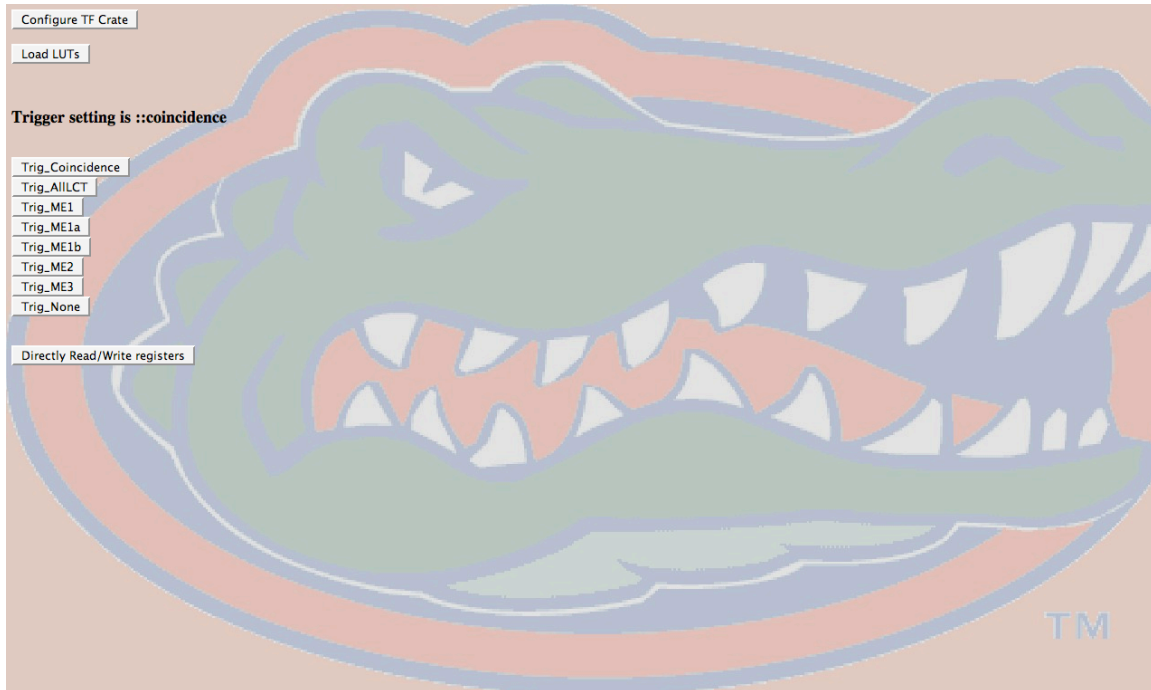..if it is not running then start it. (paragraph below)

click "TF_hyperDAQ"
you should now see the page below;

Iff the hyperdaq page is not running then start it;
ssh csctf@emutf
nohup ./startXDAQ_TF.sh >> log/xdaq.log 2>&1

configure the TF Crate

From the hyperdaq control page above, click the "Configuration Page" button. You will see the page below;

If the crate has been running (no power down) and you simply want to send a soft reset to the crate and have it reconfigure before the next run then click "Configure TF Crate". This operation will take about 10 secs and you will get the busy icon until it is done. After you will get a message at the top of the page telling you the crate has been configured.

If the crate has been powercycled then you need to load the LUTs to the SP. Click "Load LUTs". This operation will take about 3.5 minutes and you will get the busy icon during the operation and a message to the browser after it. You should follow the "Load LUTs" with a "Configure TF Crate" as above.

Define the trigger criteria: The default setting is a coincident trigger and this is what will be set after a configure sequence. To change the trigger configuration, simply click the appropriate "Trig_" buttons.

Trigger Criteria:

trig_ME1.sh	→ trigger on any LCT that comes from ME1
trig_ME1a.sh	→ trigger on any LCT from ME1a (DT sector 10)
trig_ME1b.sh	→ trigger on any LCT from ME1b (DT sector 11)

trig_ME2.sh   → trigger on any LCT from ME2
trig_ME3.sh   → trigger on any LCT from ME3
trig_coincidence.sh   → trigger on a coincidence of LCTs from any 2 stations (default)
trig_noTrigs.sh   → turn off triggers

Full configure (TF crate is off):

> switch on crate power
> switch on external +12V supply (located on top of back of TF crate)
> have a look at the power LEDs on the bottom of the CCB front panel, all 3
should be on
> load LUTs as described above
> "configure TF" as described above
> choose trigger mode

PC has been rebooted: (you need root pwd)
>ssh csctf@emutf
>cd dan
>./loadCAEN_TF
>./loadGBCard

Debug:

1/ LEDs:

CCB01 (slot 12 of TF crate):
All 3 of the green power LEDs at the bottom of the CCB01 should be on:
>If the -5.2V one if off then check the external 12V power supply located on top of the back side of the TF crate.
>If either the +5v or the +3v is off but the TF crate is on then phone the numbers at the top of the page.
'TTC' :top, yellow. should be on. This means the crate is using an external clock source rather than an internal one. If it is not on then follow the 'quick configure' steps. It should come on as part of the 'initSPforRealData'.
'L1A', red, good, this means the CCB is receiving triggers from the TTC system.
'BX0', red, good; the CCB is receiving BC0 from the TTC system.
'SNER', red, bad; there has been an error in transmission of commands from the TTC system. We managed to recover the command.
'DBER', red, bad; there was an error in transmission of commands from the TTC system. We did not manage to recover the command. If running is not obviously effected then a note should be made in the log. If running is effected (TTC commands missed) then the crate should be power cycled.

SP (slot 7 of TF crate):
'No lock', red : bad! this means there is no TTC clock lock, the SP cannot run.
    Check the CCB01 'TTC' LED, follow steps above if off.
    Check the TTC system, is it on? Ask a TTC responsible or the CSC shift leader.
'L1ACC', yellow; good. The TF crate is receiving triggers from the TTC system
'TRACK', yellow; good. The SP is making triggers that should be being sent to the CCB
    nb if 'track' is on but 'L1ACC' is off then the SP is making trigger requests but it is not receiving back the corresponding L1A back from the TTC system. Debug the trigger path from SP to the TTC and back. There is a useful scalar in the NIM crate (on end of ribbon cable from CCB01).
'RDY', green, good. The SP is configured. If this is not on then follow the 'quick configure' steps.
'wof',red,bad; the DDU readout has not been able to keep up with the trigger rate. SP FMM will kick in. Check the TF DDU is alive.
small yellow front panel LEDs, indicate over which links data is being sent, they flash when LCTs are incoming
If 'track' is on but 'L1ACC' is off then the

2/ s/w Errors when talking to crate:

> check we have all the modules loaded (after last reboot):
    >… as slice@emutf

> cd dan
>/sbin/lsmod
..you should see following:
>a2818 ..if not then run ./loadCAENTF
>v2718 ..if not then run ./loadCAENTTC
>dl2k & eth_hook_2 if not then run ./loadGBCard

>"problems with initialising CAEN library CV2718 …status =-2"
    >is the crate on!?
    >is the controller connected? (directly above the fiber input to the controller there
are 2 LEDs. The one on the right is green and should be on. If it is not then there is no
link to the computer seen here.
    >try re-loading the CAEN driver:
    >ssh slice@emutf
    >./loadCAENTF ..you will need the root password.

>"problems with initialising CAEN library CVA2818 …."
    >reload CAEN TF driver as above

>"cannot read/write FPGA.. ..check address table"
    > if you get this while trying to do 'configure TF" or one of the "trigModes"
functions then call my phone.