

EST TDRSS test Nov. 21st 2005

16:30 open terminal at cdps1

error in running cdaq_cli in cdps2/3. Decided to use only cdps1 today.

17:00 talk started between UMD and ICE

17:20 phone connection from WFF to UMD started

IP address of cdps1 given to WFF

Asked for enabling remote commanding from UMD but heard that no commanding this test since small bandwidth today

17:40 Command ITOS enabled. Sent NO-OP and WFF confirmed

Housekeeping window open. No data for 20 seconds. The same on the ICE

cream2 started.

18:00 Tunred out the power UPS on the ICE went off. No data now.

19:23 cdps1 rebooted

restarted

no hk data

several warning msg about IPacketList in cdaq_rstr.log

19:50 say bye to WFF

11/22/2005

EST

Action

15:00 Start talk with ICE
15:10 Received instructions to change our computers to GMT
15:20 Phone connection started between UMDSOC and ESC
IP address of CDPS2 provided
15:30 See data and HK from ice
15:39 Sent NOOP
15:43 Sent NOOP
15:46 Commands fail to send, error message in 'sendmd' window
15:49 IP address and port verified with WFF, will be 10 minutes before it opens
16:09 Clear buffer cmd sent by Sonny; will send more cmds to rebuild pedestal values
16:20 Updating pedestal by ice
16:30 Sent two NOOPs successfully
16:51 preparing to upload a small file over iridium; but connection is down
17:00 Back to TDRSS, re-enabled full HK; file will be uploaded
17:41 Upload of parameter file by wff begun
18:01 Switching to Iridium via Texas
18:50 Connected to computer In Palestine, TX after firewall on cdps1 was updated
21:30 Connection with iridium through palestine; able to send a command and able to receive small HK packets; but many packet discard warnings; large HK files do not work
21:40 Finished for the day. Next test is on Saturday (26th).

11/26/2005

EST

Action

14:00 Start talk with ICE

14:20 Phone connection started between UMDSOC and ESC

15:00 hk data is ok in cdps2.

the science data is displayed in cream gui.

15:40 Whenever data is relaying to cdps3, the connection is broken.

When data file is opened in cdps3, there happens segmentation fault in cdps3.

That's why it kills cdaq_relay and breaks its connection to cdps2.

17:40 Connection to ITOS is ok

NOOP cmd has been sent to ITOS

17:50 Today is off due to satellite is too low.

Next test will be this Wednesday.

12/2/2005

EST

Action

18:17 commanding and data flow established on ice, do data streaming yet
18:43 SFC turing on
18:56 hk data received at soc, trigger rate = 0, no science data
18:58 relayd problem again, write failed
18:59 Science data received at soc
19:11 Signal loss due to antenna switching
19:13 Data flow restored
21:49 send script hv_off_tcd, send STANDBY Mode and resend script
21:56 send script hv_off_cvd
22:05 turned off CAL HV
22:06 turned off CAL and SCD bias
22:10 turned off cal and scd power
22:13 requested WFF to turn off CAL, Hi and Low SCD and TCD Cherenkov power off
22:20 declared section I complete

12/13/2005

EST

Action

15:50 setting up SOC for LPT on ice

15:51 HK data starts

15:55 problem with battery #4? - prob ok, just charged faster than others

16:20 message from Sonny - LPT looks good

18:40 Cancel due to stronger wind

12/14/2005

EST

Action

21:00 start meetme call to WFF

22:14 start getting data, LPT

22:20 relay not getting data at CDPS3

22:50 relay problem fixed on cdps3, Louis pc and Cmon pc (mind.umd.edu)

23:35 declared SOC ready for launch

0:12 science and ballooncraft declare go, wait for upper level winds to calm

1:53 communication outage; using iridium modem and phone

5:34 roll out to launch pad

6:55 science part is ready for balloon inflation

10:00 begin balloon inflation

10:48 Inflation complete (Linda WFF)

11:11

Launched Successfully!!!

EST	Action
12/15/05 11:1	Launched Successfully!!! (16:11 GMT)
11:35	Reached 6029m high
15:56	declared float, pointing hga
16:18	getting hk data
16:36	SCD biases on, ok
16:40	CAL bias on
16:43	CAL HV ramping up started, no log on cdaq_cream
16:48	CAL HV ramped up to 3 kV (MB03-->2.38)
17:29	still no display or log on cdaq_cream window, data being relayed to cdps3 ok
18:17	cream2.mon has been restarted, ok now
19:15	scd monitor is visible on cdaq_cream gui
19:24	scd monitor disappeared
21:02	data gap, change in data rate from 100 to 60 requires reconfigure at Palestine
21:11	end of data gap
	Set EHI = CAL only, 6 consecutive layers. Cal. Trigger tuning by YoungSoo on the ice.
	Calorimeter HV ramping up to 5 kV and scan calorimeter trigger threshold. 85 DAC (0.6 Hz)
	Calorimeter HV ramping up to 6 kV and scan calorimeter trigger threshold. 90 DAC (0.3 Hz)
	Calorimeter HV ramping up to 6.9 kV and scan calorimeter trigger threshold. 95 DAC (0.2 Hz)
22:50	Set EHI = CAL *S3HI (MIP threshold) and scan CAL trigger threshold
	75 DAC (0.93 Hz)

EST	Action
12/16/2005	
0:12	Scan S3Hi only trigger rate w.r.t. S3Hi trigger threshold values
0:43	PKT0 is full; 1 Red
2:32	Hand over procedure started (default trigger set; CAL only, 90 DAC, 6 cons. Layers) ITOS connection established ESC hand over checking procedure; TDRSS control takeover
2:45	8001 connection closed; data transfer stopped
3:25	data transfer resumed
3:35	Sent first SOC NOOP Command and was successful
8:00	Shift in charge - kckim
13:30	TCD item 2,6 value changes 1200->750 requested by Jim.
13:56	Standby mode command sent but not working.
14:09	ESC restarted command relay, NOOP sent, re-sent standby mode 14 standby mode sent
14:29	TCD item 2, 6 value change (1200 -> 750) commands were sent
14:35	daq_restart(3) sent at 'Script' on commanding pannel
14:36	Getting data resumed
14:42	Noop
14:45	standby
14:46	TCD item 2, 6 value change (750 -> 400) commands were sent
14:49	daq_restart(3) sent at 'Script' on commanding pannel
14:50	Getting data resumed
16:00	change shift, Peter and Riccardo on
17:31	switching satellites, dropped signal, begin data gap, will fill in later with playback
17:41	reacquired sat., end of gap
18:00	playback data to fill in above gap
18:22	noop sent, second sent
18:23	Stand by mode on
18:24	daq_restart(3) sent at 'Script' on commanding panel for checking TRG rates
18:26	Stand by mode on
18:28	S3 item3 from 100 to 500 and item7 from 100 to 1000 (Pier Simone settings)
18:29	daq_restart(3) --> FLIGHT MODE ON
22:30	noted that Heading and Base RMS in the HK both persistently 999.00. Had been occa: before. Called WFF, they see same - so not HK problem. May be a bad GPS rcvr. Da to HGA from a 2nd unit and is ok. We can switch the SFC to see the output from the 2i GPS if we prefer. Decided to not do this right away but see if 1st recovers.
22:35	also noted temperatures about 23-29C. None above 30. WFF thinks this may be a bit than last year. They expect temps to go down - this is hottest part of mission.
22:41	heading and base rms now ok

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EST

Action

12/17/2005

0:30 Need to send commands for setting Cal Threshold requested by Sonny.
0:34 Standby mode
0:34 Cal Threshold 85
0:35 daq_restart(3) in 'Script' on the Command panel
8:00 Shift by Ramin Sina and MooHyun Lee starts
10:55 Satellite switch call from ESC
10:58 Switch is done and data flow back
13:30 Ask for sending command to ESC for Sonny's request and CAL DAC value modification
Sent command "SCI_PROCESS EVT 0,40 to have event number mismatching log on, did not go
13:47 through
send Standby mode not succeed
Housekeeping is not working for 30 minutes. -> due to another window already open from cdps1 . Only
one hkview in a computer.
13:55 send CAL DAC threshold 80 in the middle of run (between 1000 and 1200)
14:06 Now EHI rate is around 0.8 Hz
14:25 SCI_PROCESS EVT 0,40 sent. Succeeded. Lots of messages on TCD now
14:40 SCI_PROCESS EVT 10,0 sent. Succeeded. No mismatch check. Sonny is on the phone.
Many events with no data with TCD/CVD
14:47 SCI_PROCESS EVT 0,39 sent. Succeeded. No message on TCD.
SCI_PROCESS EVT 10.2 sent. Succeeded. Event # mismatch discard again.
16:00 Peter and Riccardo on shift
17:07 Try to set busy disable at Master Trigger
17:25 Standby mode
send daq_restart(3) with busy disable
17:50 standby mode
set prescale of ZCLB as 256 (0 rate)
17:53 daq_restart script
17:54 stand by mode
set prescale of ZCLB to 0
daq_restart script
18:09 stand by mode
set prescale ELO and ZCLB both to 0
18:10 daq_restart script
18:11 stand by mode
set prescale ELO and ZCLB both to 256
daq_restart script
18:17 stand by mode
mismatch_0 script
18:18 daq_restart script
18:47 stand by mode
set prescale EHI 256 ELO 214 and ZCLB 0
daq_restart script
19:22 standby mode
set prescale EHI 0 ELO 214 and ZCLB 0
mismatch_2 script
daq_restart(3) in 'Script' on the Command panel
20:02 NOOP
stand by mode
set s3 item3 900
daq_restart script
21:28 NOOP
stand by mode
trigger ZHI only ON
daq_restart script
21:29 trigger set prescale ZCLB 200
21:38 send script mismatch_2
21:52 stand by mode
21:53 set s3 item3 64000 item7 64000
daq_restart script
22:13 get config command for TCD
22:19 stand by mode
set s3 item 4095 item7 4095 (+ getconfig)

daq_restart script
22:27 stand by mode
set TCD item1 4095 item5 4095 (+ getconfig)
22:30 daq_restart script
22:35 stand by mode
trigger ZHI and S3LOW = ZCLB
22:36 daq_restart script
22:59 stand by mode
23:00 script mismatch_0
daq_restart script
23:08 stand by mode
23:09 trigger ZCLB 256 ELO 256
daq_restart script

EST

Action

12/18/2005

0:00 shift change, Nick and Bjorn
0:56 standby mode
tcd threshold 2, 6 set to 1000 (go to CREAM-I like setup, cut out He)
cvd threshold (tcd item 5, 15) set to 125 (cut out He as above)
1:06 DAQ restart
1:10 standby mode
Zcalib prescale = 0
1:11 DAQ restart
1:12 standby mode
Zcalib set to Zhi only
1:13 DAQ restart
1:14 Zcalib prescale = 200
3:09 cvd threshold (tcd item 5, 15) set to 150 (cut deeper into He)
4:22 standby mode
tcd threshold 2, 6 set to 2000 (try to cut TCD trigger rate down via thresholds)
4:23 DAQ restart
4:27 Zcalib prescale=0
4:27 standby mode
tcd threshold 2, 6 set to 2500 (try to cut TCD trigger rate down via thresholds)
4:28 DAQ restart
4:30 tcd threshold 2, 6 set to 3000 (try to cut TCD trigger rate down via thresholds)
4:30 tcd threshold 2, 6 set to 3500 (try to cut TCD trigger rate down via thresholds)
4:43 standby mode
tcd threshold 2, 6 set to 1000 (back to CREAM-I like setup since above did not help)
4:44 DAQ restart
4:44 Zcalib prescale = 200
8:00 Shift change, Opher and Ramin
13:35 Tried going to standby, did not work, asked ESC, they reconnected and it worked ok
13:36 Change EHI prescale to 255 to check impact on dead time fraction
13:37 DAQ restart
13:40 Found that before disabling E_Hi (E_Lo was already disabled) the live time fraction was about 26.8%, but after disabling E_Hi the live time fraction was 74.6%
13:50 Standby mode
13:51 Re-enabled E_Hi
13:52 DAQ restart
13:58 Standby mode
13:59 Change cal trigger threshold from 80 to 300 (to check live time fraction effect)
14:00 DAQ restart
14:04 Live time fraction with cal thresh of 300 is 78.4%, shower event rate is 0.007 Hz
14:22 SFC System Script: File list script
14:31 Standby mode
14:32 Change cal trigger threshold from 300 to 150 (to check live time fraction effect)
14:34 DAQ restart
14:40 Live time fraction with cal thresh of 150 is 73.0%, shower event rate is 0.04 Hz
14:53 Standby mode
14:53 Change cal trigger threshold from 150 to 120 (to check live time fraction effect)
14:54 DAQ restart
15:04 Live time fraction with cal thresh of 120 is 73.6%, shower event rate is 0.057Hz
15:42 Standby mode
15:43 Change cal trigger threshold from 120 to 100 (to check live time fraction effect)
15:44 DAQ restart
15:54 Live time fraction with cal thresh of 100 is 77.3%, shower event rate is 0.19Hz however the increased rate is all noise triggers, so should back off to 120 threshold
16:00 Peter and Riccardo on shift
16:14 NOOP test: connection is good
16:15 stand by mode
set CAL trigger threshold to 120
16:17 daq_restart script
18:40 Files uploading to cdps1.umd.edu /home/creamop/fupload
19:07 Trasferring files to wallops

19:29 Files copied at ESC
19:33 pmf000.000 uploaded
19:37 pmf000.001 uploaded
19:41 pmf000.002 uploaded
19:45 pmf000.003 uploaded
File 0 completed and assembled
19:50 SFC System script file_list
20:07 SFC System script file_list OK!
20:30 pmf001.000 uploaded - confirmed in cdaq log
20:32 file one uploaded by WFF - phone announcement
20:34 pmf001.001 uploaded - confirmed in cdaq log
20:39 pmf001.002 uploaded - confirmed in cdaq log
20:40 file two uploaded by WFF - phone announcement
stand by mode
set prescale ZCLB 228 because PKT0 is 16% and climbing
daq_restart script
20:55 pmf001.003 uploaded - confirmed in cdaq log
20:58 pmf001.004 uploaded - confirmed in cdaq log
pmf001.005 uploaded - confirmed in cdaq log, file complete, assembled 6288bytes
21:05 wff has sent all fragments of pmf001, waiting for log to catch up
21:20 pmf002.000 uploaded - confirmed in cdaq log
21:24 pmf002.001 uploaded - confirmed in cdaq log
21:28 pmf002.002 uploaded - confirmed in cdaq log
21:31 pmf002.003 uploaded - confirmed in cdaq log
21:35 pmf002.004 uploaded - confirmed in cdaq log
21:39 pmf002.005 uploaded - confirmed in cdaq log, file complete, assembled, 6288bytes
21:25 began uploading pmf003 fragments
21:54 pmf003.000 uploaded - confirmed in cdaq log
21:58 pmf003.001 uploaded - confirmed in cdaq log, file complete, assembled, 2096bytes
22:01 SFC System script file_list
22:04 SFC System script file_list: it didn't go throw
22:06 SFC System script file_list:OK
SFC System scripting custum(0)
22:07 SFC System scripting file_list: OK
22:14 SFC System script 20
22:15 SFC System scripting file_list: OK
22:16 SFC System script 21
22:17 SFC System scripting file_list: OK
22:20 stand by mode
22:22 RESET, RESTART EVT PROCESS
22:26 daq_prestart(2)
22:29 SFC System script 19
22:30 set CAL trigger threshold 120
22:34 daq_suppl.crm sent
22:38 daq_restart(3)
22:45 set CAL trigger threshold 80
22:49 sent READ BUSY
EHI trg is 12-15% per second
22:51 EVT number checking put to 0
set CAL trigger threshold 85
22:53 set CAL trigger threshold 90 because PKT0 still increasing
22:55 set CAL trigger threshold 92
23:00 Event number matching enabled by Sonny
23:05 Live time and Total time increases seem good
stand by mode
23:06 daq_restart for enabling new file data taking

EST

Action

12/19/2005

0:00 new shift - Nick and Ki Chun
0:55 TrgZclb shows red (varies from 16.00 to 32.72)
1:08 Set TCD item 6 from 3500 to 1000 (should have been set earlier, but not)
1:08 standby mode
1:09 ZCLB trigger too high, setting Prescale to 256 to make sure it goes away
1:10 DAQ restart
1:12 Set ZCLB prescale back to 228. TCD trigger seems normal now... weird
7:29 Set ZCLB trigger to 235 because buffer was filling up
7:51 Set ELO trigger to 256 as last night. Wonder why ELO came to alive. (MH)
8:00 MooHyun on shift
8:04 standby mode
set TCD item 2,6 from 1000 to 400,
set TCD(S3 only) item 1,5 from 4095 to 200 (2 MIPs)
set TCD(S3only) item 3,7 from 4095 to 500,550 (5 MIPs)
8:09 DAQ restart
Live time worse about 0.05/0.09 (~55%) w/o CD threshold change
set ZCLB from 235 to 245
still ZCLB about 12 Hz
set ZCLB from 245 to 250
Live time improves about 0.07/0.09 (78%) w CD threshold above helium
ZCLB rate about 9 Hz with 250 prescale factor (raw rate ~384 Hz)
8:21 set TCD(CD only) item 15,5 from 150 to 75 for Helium
set ZCLB from 250 to 252
Live time still 78% w CD threshold from Helium
8:33 set ZCLB as ZHI*S3LO
ZCLB now around 1 Hz
set ZCLB prescale from 252 to 100
set ZCLB prescale from 100 to 200, still high 12 Hz
set ZCLB prescale from 200 to 225, now 6 Hz (raw rate ~49 Hz)
Live time improves to 89%.
14:11 EHI rate is high ~7 Hz
Set ZCLB prescale from 225 to 240.now about 4 Hz
14:40 Set ELO prescale from 256 to 220
standby mode
daq_restart(3) sent
set ELO prescale from 220 to 240 ~ 10 Hz
set ELO prescale from 240 to 250 2.5~4 Hz (raw rate 107~171 Hz)
14:46 standby mode
set ELO prescale from 250 to 256
daq_restart(3) sent
15:22 standby mode
set CAL threshold DAC from 92 to 95 still ~8 Hz
15:23 daq_restart(3) sent
16:00 shift change, Peter and Riccardo on
16:40 brief data dropout 1-2 min
happened again, WFF says problem is CRC errors due to altitude of TDRSS
"we can expect this for the next hour or two"
16:42 data dropout to 16:45
sat inclination and bad weather causing many data errors
19:48 brief loss of data , <1 min
20:14 data gap begins
wff reports no data from white sands
actually a scheduled outage, should be back shortly
tdrss events sheet predict 4 min gap
20:20 data gap ends
20:21 another scheduled gap - this last window was 2.5 minutes long
please note: remainder of shift will have several gaps and short windows
we will probably not catch them all on this log, please consult TDRSS event sheets
21:53 trigger rate about 4-5/sec, EHI rate 0-0.4, bit rate 20kbps, PSM suggests lowering
CAL threshold

21:59 NOOP

22:03 NOOP

stand by mode

set CAL threshold DAC to 90

daq_restart script

EHI rate is about 0.7

EST

Action

12/20/2005

0:00 new shift, Nick
7:04 Standby mode (to start archiving as requested by Sonny)
7:05 executed script to downlink system log (requested by Sonny)
7:13 executed "system script 18" to copy flight software to secondary hard disk (requested by Sonny)
7:15 Reset EVT process
Reset TCD
TCD internal command "Good Concentrator"
DAQ prestart
SFC system script 19 - mask Cal and SCD channels
Reset calorimeter trigger threshold to 90
Sending GSE script daq_suppl.crm
Sending SFC CREAM Script arc_start(0)
7:25 Sending SFC CREAM Script daq_restart(3)
7:26 Stopped because of timeouts on mxr, ck
Reset TCD
7:41 DAQ restart
Still getting timeouts on mxr, ck
Out of command window
Talked to Peter, decided to try to reset the DAQ again
8:10 Standby mode
Reset EVT process (no TCD errors reported)
Sent DAQ prestart script
Sent SFC System script 19
Sending Cal trigger threshold = 90
Sending GSE script daq_suppl.crm
Sending SFC CREAM script arc_start script
8:21 Sending SFC CREAM Script daq_restart(3)
Problem seems to be fixed!!!!!!!!!!!!!!
8:34 **Standby mode (CVD HV2 not set)**
Sent command to turn on CVD HV2
8:36 DAQ restart
8:38 New shift, Opher, Peter
9:13 zclb trig rate consistently at 14.5, what is logic requirement? Board says zhi*s3lo
9:18 noop
9:19 read busy: 0480 Ehi = 01 = CAL, ZCLB = 10 = Zhi
9:23 **to be sure of logic for zclb, send "Zhi + S3Lo" trigger command**
this lowers zclb rate to about 4, therefore, we were in zhi only mode
9:26 **send standby**
daq_restart(3) to force new data file (after the` fact)
9:29 now we are only using a small portion of bandwidth, so decrease prescale on zclb
9:30 **send prescale zclb 228**
standby
daq_restart(3) to force new data file (after the` fact)
zclb rate = 7, still low
9:33 **standby**
send prescale zclb 200
daq_restart
zclb rate = 12 but bitrate still only 16-20 khz, these events being archived and don't want to fill up disk too fast, so don't lower prescale any more at this time
10:27 **set prescale elo=256**
concern about rate disk is filling, has dropped to 93.96 about 1/2% this morning in about 3 hrs
11:48 data gap - less than 1 min, planned, see tdrss event sheet
12:02 Opher calculates disk will fill in 40 days. Need to cut rate.
12:11 **standby**
prescale zclb 228
12:13 **daq_restart**
zclb rate now about 7 hz
12:15 disk 93.82% full
12:37 **standby**

cal threshold 100
dac_restart(3) to force new data file (after the` fact)

12:40 send elo prescale 250
12:45 6 minute gap
13:33 disk 93.67% full
15:45 Estimate that at the rate of disk usage over the past 3.5 hours we will fill the disk in 33 days
16:00 New shift, Peter & Riccardo
17:48 EHI trigger rate is close to zero so we try to get lower CAL trigger threshold
17:51 stand by mode
set CALtrigger threshold 95
daq_restart
17:53 EHI rate now is about 0.3
18:43 standby, MH wants more Elo events so reduce prescale to 247
prescale=elo,247
daq_restart
elo trig rate about 4 hz
20:30 begin 1 hour gap in data and commanding, on and off
the data gap caused the GTB files for 2330 - 0130 to be missing
22:47 playback of some of the missing data from earlier TRDSS outage on 12/19
23:36 short gap between tdrss passes 4.5 min

EST

Action

12/21/2005

0:00 change shift, Kichun and Nick on
8:00 change shift, Joonhyuk and Moohyun
10:11 data transfer is stopped
10:50 wallops suggested to reset hub in the instrument side, allowed them to do so.
not successful.
10:55 Ask WFF to reset SFC based on the trouble shooting procedures. Section A and b.
Now data came back
check command by NOOP, it works.
send Restart EVT Process
synchronise CAL HV as 2300 in SW
send tcd_threshold.crm
send cvd_threshold.crm
found cvdhv2 was zero value
send hv_on_tcd.crm
11:05 send hv_on_cvd.crm
11:00 standby mode
restart EVT process
run daq_prestart(2)
run 19
set CAL threshold DAC =95
send daq_suppl.crm
send arc_start(0)
send daq_restart(3)
11:19 Went back to normal
11:24 standby mode
set S3HI threshold item 3 as 500, item 7 as 550 (5 MIPS)
send daq_restart(3)
11:27 standby mode
set ZHI threshold item 2,6 as 400
11:28 send daq_restart(3)
standbymode
set ELO prescle 247, ZCLB 228
send daq_restart(3)
11:40 standby mode
change back S3HI item 5 from 500 to 200 (chnaged wrong one)
11:41 send daq_restart(3)
11:47 standby mode
change back S3LO item 5,0-7 from 200 to 600
change back S3HI item 5 from 500 to 200
11:48 send daq_restart(3)
11:50 standby mode
change ZCALB=ZHI+S3LO
11:52 send daq_restart(3)
Now the ELO and ZCLB rate seem the same as before the reset
Found that ELO rate become close to 0 Hz when the ZCLB was only ZHI and rate was
about 15 Hz. It seems that there are interference between the two triggers.
13:26 2 Red Channels; Heading=999, BaseRMS=999
13:32 Returned to Green; Heading=253, BaseRMS=0.03
14:14 standby mode
set CAL threshold DAC =100
14:15 send daq_restart(3)
16:00 shift change, Peter and Riccardo
16:51 notice Disk Spc on HK down to 16.5 and dropping visibly
16:55 standby

16:56 send arc_stop script
daq_restart script
data rate too high, pkt 0 = 5%

16:59 standby
changed elo prescale to 255
daq_restart
MH noticed message "Cal calibration event sending: on "

17:09 standby
we are trying to figure out why we are trying to send down cal
calibration data which is swamping bitrate and causing 17% PKT0
MH writes script file daq_pedestal_rawoff.crm to turn off raw data

17:27 send daq_pedestal_rawoff

17:30 send daq_restart(3)
MH has looked at the disk space vs time and has concluded that
the rapid use of the disk space began at the same time as the CD
HV2 problem. Possible failure of flash disk, or possible problem
in the SFC routine calculating the remaining space.

17:56 disk_list script: Result: we are archiving on the secondary disk

18:21 stand by mode

18:24 hv_off_tcd script
hv_off_cherenkov script
get config for TCD

18:28 shutdown script

18:31 stand by mode

18:36 asked wff to switch to primary boot: wff confirmed the command had gone through

18:37 asked wff to reset the SFC: WFF confirmed
data still coming in although no data coming from WFF so stop forwarding and
then frestart from WFF
restart EVT process
Ready to go message : OK
synchronise CAL HV as 2300 in SW
tcd_threshold script
cvd_threshold script
hv_on_tcd script
hv_on_cvd script

18:55 disk list(5) to check the current disk

18:56 disk list(5) to check the current disk : it seems the current disk is still 1GB one

19:00 Moo-Hyun has sent the following commands:
set CAL threshold DAC =100
set S3HI threshold item 3 as 500, item 7 as 550 (5 MIPS)
set ZHI threshold item 2,6 as 400
change back S3LO item 5,0-7 from 200 to 600
set ELO prescle 247, ZCLB 228
change ZCALB=ZHI+S3LO
daq_pedestal_rawoff script
daq_restart script
set CAL threshold DAC =100
daq_suppl script

19:11 set S3HI threshold item 3 as 500, item 7 as 550 (5 MIPS)
set ZHI threshold item 2,6 as 400
change back S3LO item 5,0-7 from 200 to 600
set ELO prescle 247, ZCLB 228
change ZCALB=ZHI+S3LO

19:13 daq_pedestal_rawoff script
daq_restart script
It seems there is something in WFF commands that switches to

secondary (1GB) disk (???)

EST

Action

12/22/2005

0:00 shift change, Kichun and Nick

0:00 TrgEHi keep changing the color, rd and grn. The values are between 3 and 8.

Fixed TCD items 2,6 to 400 (from 1200). Someone set it wrong - Jim caught the mistake (ZHI threshold values)

7:56 standby mode - just to create a new data file

7:57 DAQ restart

8:00 shift change, Joonhyuk and Moohyun

13:26 CAL motherboard #4: High Voltage Trip; HV and Bias were turned off

HK monitor: 7 Red; 4 Orange; 359 Green

7 Red Data: TrgTotal=204.04, TrgEHi=207.63, PKT0=66.3, CalHV4=0, CalBias4=0, Cal+36A4=0, Cal+12A4=0

13:36 Ask ESC to send a command; sent NOOP; unsuccessful; now success

13:39 Turn off the bias and power of MB#4

13:41 Synchronize SW HV=0

13:42 Turn on bias of MB#4

13:47 standby mode; didn't go to standby mode

13:52 PKT0 queue is full and reducing slowly. Waiting to be empty

14:14 sent cmd Flush Buffer (under miscellaneous button in GUI)

sent cmd Prescaler Ehi=256

sent cmd Cal Trigger 10 consecutive layers

14:19 sent Restart EVT process (under Reset button in GUI)

sent Cal Trigger 6 consecutive layers

sent Restart EVT process

sent Cal MB#4 Power off

sent Reset Cal4

sent Reset CMD Board

14:25 sent Restart EVT process

14:28 sent Restart EVT process

Command didn't get through into the SFC; SFC does not respond with the commands we sent

Trigger rate is resuming to high value, after resetting

14:33 sent SCI_STOP (under Run button)

14:40 sent Restart HK Process (under Reset button)

Prescale EHi=255

14:45 Determined to reboot the SFC based on Proc. A in 670

14:48 sent SFC System Script Shutdown(8)

14:52 asked ESC to reset the SFC

14:55 HK data is flowing again

CVDHV2=0; it's odd. Coincidence.....

CAL MB#4 Power On

CAL MB#4 Bias On

Synchronize #1-8 (except 4) to 2300; Synchronize #4 to 0

tcd_threshold.crm script (under GSE CREAM script)

cvd_threshold.crm (under GSE CREAM script)

hv_on_tcd.crm (under GSE CREAM script)

hv_on_cvd.crm (under GSE CREAM script)

15:01 Disk List(5) executed (under SFC System Script)

Cal Trigger 6 consecutive layers

CAL Threshold DAC=100

set S3HI threshold (S3 only) item 3 as 500, item 7 as 550 (5 MIPS) (in TCD)

set ZHI (all except S3) threshold item 2,6 as 400 (in TCD)

15:08 change back S3LO input to TCD trigger (all but S3) item 5, from 200 to 600

set ELO prescle 255, ZCLB 228 Ehi=0

Get Config (under TCD)
15:10 change ZCALIB=ZHI+S3LO
daq_pedestal_rawoff script
15:13 daq_suppl script
change ZCALIB=ZHI+S3LO
daq_restart[3] (under Script button in SFC CREAM script)
TRY Again!!!! We missed daq_prestart and 19.....
15:14 standby mode
15:16 executed daq_prestart(2) in SFC Cream script
executed 19 in SFC System script
15:24 change S3LO item 5,0-7 to 600
set ZHI threshold item 2,6 as 400
set S3HI threshold item 3 as 500, item 7 as 550 (5 MIPS)
change S3HI item 5 to 200
GetConfig to confirm the previous setting; check the tcd snapshot sheet attached in
CDPS2 machine body (after 5 minutes have passed)
change ZCALB=ZHI+S3LO
set ELO prescle 255, ZCLB 228 Ehi=0
sent daq_pedestal_rawoff.crm script
In daq_suppl.crm, change from S3 only to ZCLB=ZHI+S3LO
15:33 sent daq_suppl.crm
sent daq_restart(3)
standby mode
Synchronize SW HV=0 in MB#4 only
15:38 MB#4 HV ramping: set HV Lvel to 1000; confirm CalHV4=3.1 (kV)
15:47 sent daq_restart(3)
standby mode
MB#4 HV ramping: set HV Lvel to 2000; confirm CalHV4= 6.2(kV)
15:58 sent daq_restart(3)

16:00 shift change, Peter and Riccardo
22:21 data gap, line down from WFF
22:23 wallops resets hub, this starts data flowing again
we note that dat0 and pkt0 are both 100% and having trouble decreasing
because we are getting events which also use up bandwidth
22:32 stand by mode - didn't go through
22:33 NOOP - also didn't work
22:34 NOOP: after WFF confirmed we have commands
standby mode: PKT0=100
events all CAL and SCD only, SCD data very "dense" - lots of lines, close
Flushing buffer: Moo-Hyun and Pier Simone decision
22:45 daq_restart script
data looks ok

EST

Action

12/23/2005

0:07 Bjorn begins shift
8:00 Moo-Hyun & Chanho begins shift
16:00 Peter begins shift
16:02 Multiple timeout error messages from TCD concentrators, 50% dead time fraction
16:05 Waiting for TDRSS window in a few minutes
16:10 Standby mode
16:12 send daq_restart(3)
16:14 Standby mode
16:16 **Reset TCD**
Run section F of procedure 660: resetting the daq
16:19 **Restart EVT Process**
16:20 daq_prestart script
script 19
16:21 set CAL trthreshold 100
16:22 daq_suppl.crm script
TCD get config
Observing TCD snapshot, we found that at least 1 concentrator for the TCD is not responding (pxl shows some values while mxr myl myr and s3 show zero)
The message of cdaq is "Timeout on concentrator xxx"
cdaq message in log file: No connection to master trigger, not clearing...
16:40 **Run section F of procedure 660: resetting the daq**
16:41 Restart EVT Process
daq_prestart script

We get another time "TCD:failed to connect, not retrying on pxx,pyl,pyr,mxl" message

16:43 TCD getconfig
Result: NO response from TCD
16:59 **Moo-Hyun: daq_pedestal_rawoff script**
set ELO prescle 256, ZCLB 256 to turn off TCD input signals
17:01 **daq_restart**
Run section F of procedure 660: resetting the daq
17:03 stand by mode
restart EVT process
17:05 daq_prestart
script 19
set CAL trigger threshold 100
17:07 daq_suppl.crm script
daq_pedestal_rawoff script
17:08 daq_restart
"TCD: no connection to master trigger, not clearing" message
Run section E: Power cycling of the TCD/CVD as Jim suggested
17:49 NOOP
17:50 stand by mode
hv_off_tcd script
hv_off_cvd script
17:54 **we asked WFF turning off TCD power**
17:55 WFF confirmed their command went through
17:57 **we asked WFF turning on TCD power**
WFF confirmed their command went through
tcd_threshold script

cvd_threshold script
17:58 TCD update
18:02 TCD update
18:04 hv_on_tcd script
 hv_on_cvd script
18:05 TCD update
 Run section F of procedure 660: resetting the daq
18:08 restart EVT process
 daq_prestart
 script 19
18:09 set CAL trigger threshold 100
 daq_suppl.crm script
 daq_pedestal_rawoff script
18:12 set TCD item2 400
 set S3 item3 500
 set S3 item5 200
 set TCD item6 400
 set S3 item7 550
 set item14 pxl 1600, mxr 1650, myl 1750, myr 1625, s3 1725
 set item15 myl 2125, myr 1875
 TCD update
18:24 set ELO 255 ZCLB 228 EHI 0
 daq_restart
 data looks ok

EST

Action

12/24/2005

0:00 Change of shift, Bjorn

2:24 Data stopped flowing, Wallops working with white Sands

3:45 Info from Wallops: can't command CDM even though
connection appears to be established.

4:16 Data back!

PKT0 at 93% but consistently dropping. So data off between
7:24 and 9:16 GMT.

8:00 Change of shift, Ramin & Chanho

9:00 Observing continuously Warning :

timeout on concentrator pxr, mxl, myl, myr, s3

event number mismatch

mismatching event trigger

TCD:synchronization slip on concentrator pxr, tossing

unable to fix synchronization slip on pxr

Observing also :

stv sutoupdate

Dcommand : sci_tcd update

Dcommand : sci_cvd update

12:30 PKT0 dropped to be 0 but warnings continues

16:15 Young Soo is on for Shift

20:10 Almost every 30 second, there were WARNINGS for TCD concentratos
event number mismatching happens once a minute

EST

Action

12/25/2005

0:00 Change of shift, Bjorn

8:00 Change of shift, Chanho

16:00 Young Soo is on for Shift.

21:02 Data Flow disconnected

ESC said that there was satellite switch.

21:05 Data flow resumed.

21:50 When I make plots for spi, I found some files are missing.

There were only tSCD and bSCD spi file at 20051226-022452*spi

There were only CAL and bSCD spi file at 20051226-025512*spi

Since there were "ERROR: IPackerList..." on cdaq_rstr.log sometimes, it seemed to be missing during the transmission.

22:05 Asked ESC of commanding connection.

Send a script, "get_spi.crm" to get extra spi files for CAL, tSCD and bSCD.

20051226-030908*.spi are generated.

23:28 Ehi rate is about 4-6Hz, so PKT0 is about 0 ~ 0.5 %.

EST

Action

12/26/2005

0:00 Change of shift, Bjorn

5:03 Data stopped briefly: 10:03:00-10:03:03, reconnected immediately

8:00 Change of shift, Opher and Chanho

16:00 Change of shift, Joonhyuk and Riccardo

17:00 Data stopped briefly: 22:03:30, reconnected immediately

EST

Action

12/27/2005

0:00 Change of shift, Chanho

8:00 Shift: Ki-Chun & MH

16:00 Change of shift, Joonhyuk and Peter

17:04 Data stopped briefly: 22:04:30, reconnected immediately
due to satellite switch

17:57 Send NOOP
Goto Standby Mode

17:58 Execute SFC System Script Shutdown(8)

18:02 Shutdown safe indication from ESC

18:04 Ask to switch secondary(alternate) boot source
Send the command to alternate boot source twice more
ESC have a confirmation on that

18:06 Ask to switch primary boot source
Send the command to alternate boot source twice more
ESC have a confirmation on that

18:08 Ask to send CPU RESET command
ESC have a confirmation on that

18:10 Data resumed; Changed to primary boot source successfully
Disk Space is now 91.32%
But, CVDHV2 is 0

18:12 Send Restart EVT process
CAL select all MB except #4
Synchronize SW level to 2300
CAL select MB #4
Synchronize SW level to 2000

18:16 Send GSE Cream Script tcd_threshold.crm
Send GSE Cream Script cvd_threshold.crm
Send GSE Cream Script hv_on_tcd.crm
Send GSE Cream Script hv_on_cvd.crm

18:20 Send TCD GetConfig
Change S3LO item 5,0-7 to 600
Set ZHI threshold item 2,6 as 400
Set S3HI threshold item 3 as 500, item 7 as 550 (5 MIPS)
Change S3HI item 5 to 200
GetConfig to confirm the previous setting; check the tcd
snapshot sheet attached in CDPS2 machine body (after 5

18:26 minutes have passed)

18:28 Send SFC Cream Script daq_prestart(2)
Send SFC System Script 19
Send GSE Cream Script daq_suppl.crm

18:30 Send SFC Cream Script arc_start(0)
Send GSE Cream Script daq_pedestal_rawoff.crm

18:33 Send SFC Cream Script daq_restart(3)

18:36 Change ZCLB=ZHI+S3LO in Master Trigger
Set ELO prescale to 255, ZCLB 228 EHI=0
CAL select All and set threshold to 100

18:39 Set ELO prescale to 250

18:40 Change EHI=CAL only in Master Trigger

18:44 CAL select All and set threshold to 95
18:47 Change Cal Trigger to 6 consecutive layers
18:51 Execute Disk List(5) under SFC System Script
4% Used in available disk space when *.sys is checked
18:54 Set ELO prescale to 245
Set ELO prescale to 240
18:59 Send EHI=CAL only again in Master Trigger
Everything is running ok; Clipboard updated to reflect a current
19:03 parameters setting
19:05 Goto Stanby Mode
19:06 Send SFC Cream Script daq_restart(3)
19:16 Goto Stanby Mode
Set ELO prescale to 250
Send SFC Cream Script daq_restart(3)
19:22 Clipboard updated to reflect a current parameters setting
19:45 Stand by mode
19:46 set ELO 255 ZCLB 200
Synchronize MB4 for CAL
New value for CAL MB4 2300 (ramping up)
19:50 daq_restart : Flight Mode
There are differences in TCD and CVD plots. It's due to fewer
21:45 events after restarting archiving.
22:45 Data stopped briefly: 03:45:30, reconnected immediately

EST

Action

12/28/2005

0:00 New shift. Gabriele
8:00 New shift. Ki-Chun & MH
16:00 New shift. Peter and Chanho
18:07 Send NOOP

Stand By Mode

Prescale for Elo 245

Send a script for [daq_restart.crm](#)

Elo rate ~ 3 /sec, bit rate ~ 40 khz

EST

Action

12/29/2005

0:00 New shift. Bjorn, Gabriele

8:00 New shift. Moo-hyun, Chanho

16:00 New Shift. Peter, Alex

16:11 standby

Elo prescale = 235

daq_restart

16:15 Elo rate ~ 6, Bitrate ~ 60khz

EST

Action

12/30/2005

0:00 New shift. Bjorn, Gabriele
5:08 Lost data for 30 seconds, then came back
8:00 New shift. KC & MH
14:05 PKT0 begin to stack higher than 10
14:11 Need to increase Elo value 250
14:13 Standby mode
14:14 Elo 250
14:14 DAQ restart
16:00 New Shift, Peter and Ramin
22:53 data gap, WFF says lost lock
23:01 end of data gap, came back spontaneously, WFF says
WS may have dropped connection, they are looking into it
23:10 standby mode
23:11 Elo prescale set 235
23:12 DAQ restart
23:13 Elo trigger is about 6
23:13 bit rate is about 40

EST

Action

12/31/2005

0:00 New shift. Gabriele

8:00 New Shift, YoungSoo and Alex

16:00 New Shift, Peter and Bjorn

15:50 send Noop

15:51 standby

set Elo prescale to 240, PKT0 was not clearing well after
pedestal run, EHI rate ~5 hz

daq_reset(3)

15:55 pkt0 still not clearing well

16:03 set Elo prescale to 245

bit rate ~60 kbps

EST

Action

1/1/2006

0:00 New shift. Young Soo

1:26 Ehi rate is 0~0.4 Hz Elo is 2.8 ~4Hz

Network rate is 27 ~ 35kbps

set Elo prescale to 235

1:30 Elo is about 5Hz and Network Rate is 45 kbps

3:50 Data connection closed

ESC said that it'll be abck in 3 mins.

3:54 Data Flow resumed

8:00 New shift. Alex

3mins Data outage

6mins Data outage

16:00 New shift. Peter

pkt0 = 9%, so time to cut back on Elo

16:11 standby

Elo prescale = 245

daq_restart

Elo rate 3-4, Ehi rate 6, pkt0 dropping slowly

17:50 data gap begins and ends. 1-2 minutes

19:58 data gap begins, scheduled 4'30" data gap

followed by 2'30" of service followed by 4'30" of gap

EST

Action

1/2/2006

0:00 New shift. Young Soo and Bjorn
11:45 Data disconnect
11:47: back
11:50 Data disconnect
11:54 Data comes back
Ehi ~ 0.3 Hz , Elo ~3.3 Hz and NetRate ~30 kbps
12:09 Stand by mode.
Send Prescale for Elo 235
daq_restart
Elo ~4Hz and NetRate 50 kbps
7:38 data disconnected, and reconnected
7:50 data disconnect
7:54 data back
7:57 data disconnect
8:00:00 AM New shift. Gabriele and Joonhyuk
8:01 data back
11:43 data disconnected
11:47 data resumed
11:50 data disconnected, and reconnected
15:44 4.5 minute gap, then 2.5 minutes service then 2 minute gap
16:00 new shift, Peter and Ramin

EST

Action

1/3/2006

0:00 New shift. Isaac and Bjorn
3:38 Data disconnect for one second (scheduled)
3:50 Data disconnect
3:54 Data back

8:00 New shift. Joon-hyuk and Chanho
10:50 Data disconnected; reconnected immediately
11:40 2 Red Channels; TrgEHi=82.54, PKT0=62.09
SCD graphs are too noisy; a lot of channels; strange!!!
11:43 Data disconnected
11:46 Data resumed
11:48 Ask for ESC Standby to send a command
have no satellite window; wait until 11:55
2 Red Channels; DAT0=99.94, PKT0=100.00
11:55 Sent NOOP; went through ITOS
11:58 Sent Standby Mode
Sent CAL Threshold=100
Sent Prescale Elo=256, ZClb=256 (disabled)
12:02:00 PM Sent daq_restart(3)
12:04 Sent Standby Mode again
DAT0=0.0, PKT0=98.29
12:16 PKT0=89.37
Sent CAL Threshold=105
Sent daq_restart(3)
12:17 Sent Standby Mode again
Sent CAL Threshold=120
Sent daq_restart(3)
12:21 Sent Standby Mode again
Wait until PKT0 is clean
13:45 Data disconnected
14:04 Data resumed
PKT0=0.0; Packet queue is cleared
14:05 Sent NOOP; went through ITOS
14:08 Sent daq_restart(3)

TrgEHi severely oscillating bursts; 4 -> 30 -> 4 -> 30 ...
Try to find the best DAC value
14:14 Sent Standby Mode again
Sent CAL Threshold=150
Sent daq_restart(3)
At this level, we don't see any Ehi bursts.
14:17 Sent Standby Mode again
Sent CAL Threshold=135
Sent daq_restart(3)
At this level, we still see Ehi bursts.
14:19 Sent Standby Mode again
Sent CAL Threshold=140
Sent daq_restart(3)
At this level, we don't see any Ehi bursts.
14:21 Set Elo=245, ZClb=220

Standby Mode
14:23 daq_restart(3)
Ehi burst happens once in a few minutes; Not frequently

16:11 Data disconnected; resumed immediately

16:41 Standby Mode
Send 6 consecutive layers algorithm

16:43 daq_restart(3)
Standby Mode
Sent CAL Threshold=120

16:46 daq_restart(3)
Standby Mode
Sent CAL Threshold=140

16:48 daq_restart(3)

6 consecutive layers doesn't make effects on Ehi bursts.....

17:11 Shift change, Peter

17:30 Young Soo joined in shift after group meeting

18:00 Standby Mode

18:01 Send Power off for CAL Module 9 through 14
Send Power on for CAL Module 9 through 14
Send 6 consecutive layers algorithm
Sent CAL Threshold=100

daq_restart(3)

18:04 Ehi Rate is 80~130Hz

Standby Mode

Sent CAL Threshold=140

Power off Mater Trigger Board

(confirmed by command serial number)

Power on Mater Trigger Board

Send Prescaler 245 for Elo and ZC1b 220

Send Trigger Selector Zhi*S3Lo, CAL, and Zhi*S3Hi

daq_restart(3)

Standby Mode

Sent CAL Threshold=100

18:09 Ehi Rate is ~170Hz still

Standby Mode

Sent CAL Threshold=140

daq_restart(3)

18:11 Ehi Rate is ~ 2 Hz

EST

Action

1/4/2006

0:00 New shift. Isaac and Sonny
8:00 New shift. Opher, Gabriele and Chanh
8:45 start getting playback data
10:00 Standbay mode
Set CAL threshold 120
DAQ restart
HI rate seems low
10:05 standbay mode
Set CAL threshold 100
HI rate seems low
10:07 DAQ restart
11:26 end of getting playback data
4:00 New Shift: Peter and Ramin

EST

Action

1/5/2006

0:00 New shift. Isaac and Steve

TCD ADC plot for tube 0 shows anomalous cutoff below ~2200

1:15 channels

TCD ADC plot for tube 0 anomalous cutoff slowly increased all

7:50 night to ~3000 channels

8:00 ChanHo and Opher on shift

16:00 Gabriele on shift

22:30 PKT0 is now 10.90

23:00 Standbay mode

we are waiting for the next window to send a command

23:15 window command is back

23:15 set prescale ELO=255 (playback mode)

23:20 daq restart

now PKT0 is 1.42

EST

Action

1/6/2006

- 0:00 Start new shift, Steve and Isaac
- 0:15 Prescale on ELO set to 250
Noticed TCD data had stopped during 2 hour check of plots;
- 2:00 appears to have coincided with the 0:15 prescale change.
- 2:15 Power cycled the TCD per procedure 670 F; No effect
- 2:30 Power cycled the TCD again, still no effect.
- 2:50 Commanding issues resolved with WFF
- 3:15 Sonny contacted to advise on TCD & DAQ restart procedure
- 4:05 Resumed normal flight ops
- 4:30 PKT0 is at 13.10
- 4:38 Set ELO prescale to 255; restarted the DAQ
- 4:30 PKT0 is at 5.60
- 6:50 ELO rate at 10-80 (oscillating); PKT0 oscillating at 10-30
- 7:10 Commanding lost - expect recovery at ~0810
- 7:25 DAT0 oscillating 80-100
After consultation with Peter, placed instrument in standby via
- 7:48 Iridium commanding to allow buffer to clear
- 7:52 Trigger rate is not at zero?? Oscillating around 1-10 Hz
- 7:53 Trigger rate is at zero and steady
- 7:55 DAT0 is at 0
- 8:15:00 AM Start new shift, Bjorn and Peter
- 9:50 Elo prescaler to 256 and restart data tacking
- 10:21 Sent zlcb 220
- 10:40 bit rate low, try to get more Elo events by decreasing prescale
- 10:49 standby mode
send prescale Elo=250
daq_restart
Elo running 10 hz, too high so raise prescale
- 10:55 standby mode
send prescale Elo=255
daq_restart
- 11:11 found that TCD values are not to the right values
sending correct values during run
- 11:15 standby mode
finished sending correct`values, verified configuration
- 11:21 send Elo prescale =245
- 11:23 daq_restart - data should be good at this `point
bit rate ~ 35-40, Ehi rate = 0, Elo = 5, ZCLB = 8
- 12:16 EHI rate going high 20-80, so raise threshold
standby mode
set CAL Thresh =120
daq_restart
EHI rate 3-5, burst to 12
- 12:25 standby mode
set CAL Thresh =100
daq_restart
- 16:00 New Shift: Gabriele & Ramin

EST

Action

1/7/2006

0:00 Start new shift, Steve and Isaac

3:18 Top SCD for 08:09 plot shows higher channel tail.

8:00 Start new shift, Joon-Hyuk and Chanho

16:00 Start new shift, Gabriele and Nahee

EST

Action

1/8/2006

0:00 Start new shift, Young Soo and Sonny

8:00 Start bew shift, Bjorn

15:31 Brief data disconnect

16:00 Start new shift, Nahee and Peter

EST

Action

1/9/2006

0:00 Start new shift, Young Soo and Steve