JGW-G1808403

LIGO-KAGRA joint CDS meeting

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Contents

Our updates before Phase-1 operation

- Updated ADC firmware for fixing IRIG-B 999996
- Installed trend-writer and SSD for minute-raw data
- Developed a new script for Dolphin network

Remains serious problem toward cryogenic (DR)FPMI

- Too large CPU MAX

IRIG-B problem

[klog4685]

We updated the ADC firmware. Thanks to Michael!

Rev 1 -> Rev 34

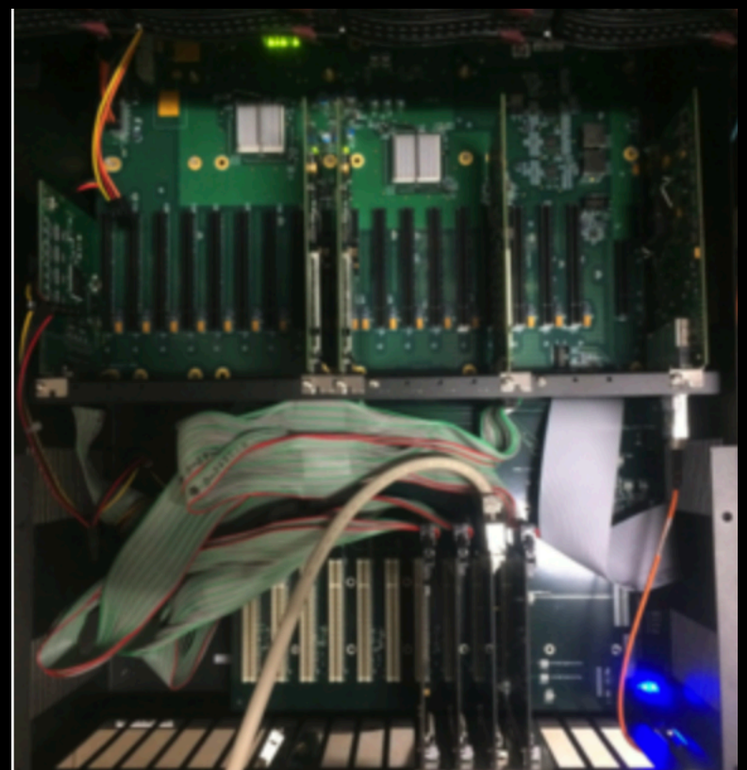
IRIG-B 999996 problem is partially fixed (on 2 of 3 IO chassis)

I noticed that the 1st DAC adapter is installed
in another slot on some(not all) IO chassis.

But we cannot turned ON DAC duotone in this configuration.

Should we turned ON DAC duotone?

What purpose is the DAC duotone?



Installation of trend-writer

Daqd on frame-writers periodically downed before phase-1 operation.

We installed two trend-writers which have local SSD.

- Frame-writers record full/science/minute/second on NFS area
- Trend-writers record minute-raw on local SSD

Periodically hung-up of daqd was stopped after the installation.

Current data rate of KAGRA data

full: 160MB per 32s
science: 50MB per 32s
second: 160MB per 600s
minute: 100MB per 3600s

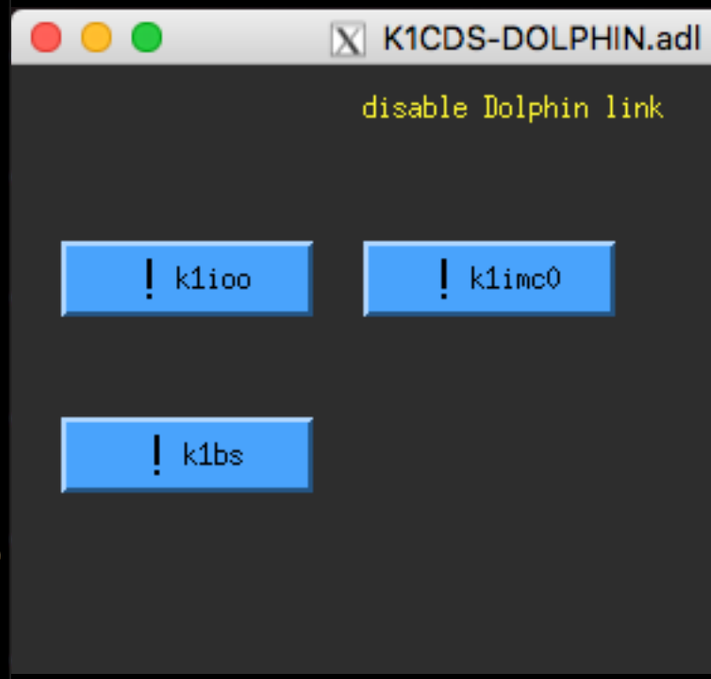
Dolphin script

Three RTPC joined dolphin network during Phase-1 (k1ioo, k1imc, k1bs)
- All the models on 3 RTPCs down when we shutdown 1 in 3 RTPCs.

I prepared the new script for disabling the Dolphin communication.
[Ref] Section 9 in LIGO-T1300518-v6

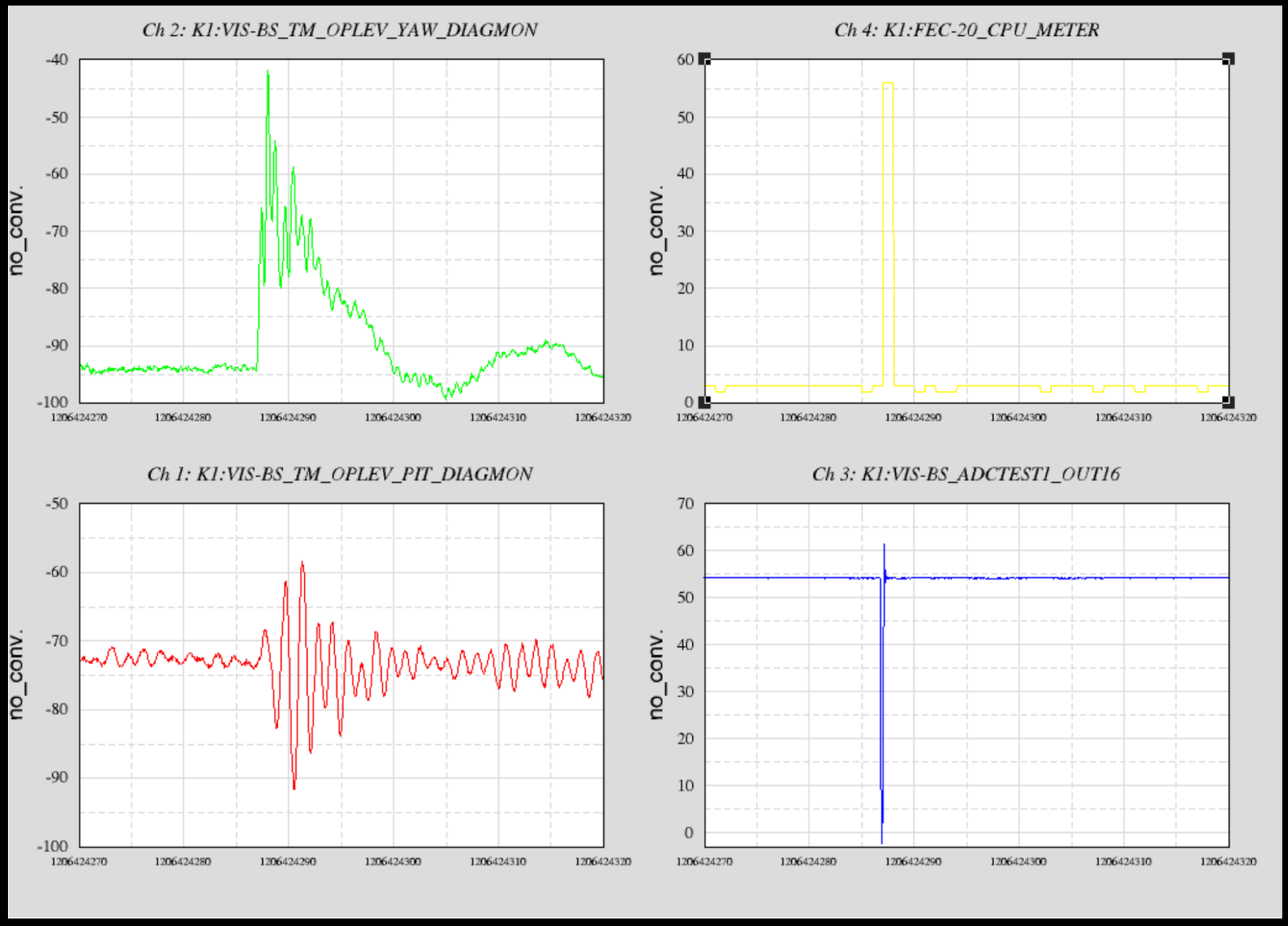
Terminal — screen ▸ ssh — 145×40 — ⌥⌘1

```
controls@k1ctr0:/opt/rtcds/userapps/release/cds/common/scripts$ cat dolphin_disable.sh
#!/bin/bash

THIS=/opt/rtcds/userapps/release/cds/common/scripts/dolphin_disable.sh
BOOTSERVER=k1boot
CONFFILE=/etc/dis/cluster.conf
ADAPTER=0

NODENAME=$1
[ "${NODENAME}" = "" ] && echo "usage: $0 hostname" && exit 0

if test `hostname` = "${BOOTSERVER}"
then
    NODEID=`grep '^nodeoption ' ${CONFFILE} | grep " ${NODENAME} " | awk '{print $5}'`
    [ "${NODEID}" = "" ] && echo "[ ERROR ] Can't find $1 in ${CONFFILE}" && exit 0
    printf "  Node ID of \033[31;01m${NODENAME}\033[00m = ${NODEID}\n"
    echo ""
    for OTHER in `grep '^nodeoption' ${CONFFILE} | grep -v "${NODENAME}" | awk '{print $2}'`
    do
        if test `ssh ${OTHER} sudo /opt/DIS/sbin/dxdiag | grep "In range" | wc -l` -ne 0
        then
            printf "`hostname`> ssh \033[31;01m${OTHER}\033[00m sudo /opt/DIS/sbin/dxtool disable-remote-link ${ADAPTER} ${NODEID}\n"
            ssh ${OTHER} sudo /opt/DIS/sbin/dxtool disable-remote-link ${ADAPTER} ${NODEID}
        else
            printf "  Nothing to be done for \033[31;01m${OTHER}\033[00m\n"
        fi
    done
else
    export SSH_ASKPASS=/usr/lib/seahorse/seahorse-ssh-askpass
    echo ""
    echo "`hostname`> setsid ssh -o NumberOfPasswordPrompts=1 ${BOOTSERVER} ${THIS} ${NODENAME}"
    setsid ssh -o NumberOfPasswordPrompts=1 "${BOOTSERVER}" "${THIS}" "${NODENAME}" 2> /dev/null && zenity --info --text "disable Dolphin for $1"
 2> /dev/null || zenity --error --text "Auth Error" 2> /dev/null
    echo ""
fi
```



CPU MAX problem

CPU meters on almost all models are too large
Too large CPU meter value causes glitches and lockloss



NAME	GPS [s]	TIM	CPU
k1iopioo0	1213539130		63
k1psl	1213539130		67
k1imc	1213539130		65
k1imcasc	1213539130		74
k1iopimc0	1213539130		62
k1vismci	1213539130		64
k1vismce	1213539130		65
k1vismco	1213539130		65
k1vists	1213539130		62
k1visimmt1	1213539130		66
k1visimmt2	1213539130		65
k1lsc			
k1calcs			
k1iopprm	1213539130		5
k1visprm	1213539130		25
k1ioppr0	1213539130		62
k1vispr3	1213539130		96
k1ioppr2	1213539130		62
k1vispr2	1213539130		93
k1iopbs	1213539130		61
k1visbsp	1213539130		78
k1visbst	1213539130		71
k1iopsrm	1213539129		61
k1vissrm	1213060536		76
k1iopsr2	1213539130		5
k1vissr2	1213539130		76
k1iopsr3	1213539130		58
k1vissr3	1213539130		84

CPU MAX problem

What we did for phase-1 operation

- changed sampling rate for PRs and ETMs
  16kHz —> 2kHz

- splitted model for BS
  k1visbs (16kHz) —> k1visbst (2kHz) for tower
  k1visbsp (16kHz) for payload