Three identical computers are configured for the TCS3 Control System:

- T1 is the summit TCS3 computer system.
- T2 is the spare system for T1, to be located at the summit.
- T1hilo is the TCS3 development/Hilo lab computer.

**Computer Configuration:**

- C5CHASSIS (www.chassisplans.com), 4U 19" Rackmount chassis.
- AUSU P4S800 SSI 648FX Motherboard.
- P4/2.8Ghz 800 FSB CPU
- Geforce FX5600 AGP Video Card
- 1024 MB PC-3200 DDRAM
- 80 GB IDE Harddisk
- Centos OS 4.x operating system.
- Floppy drive, DVD-ROM drive.
- 420 Watt ATX power supply.

**Servo Controller Card**

The PMAC from Delta Tau Data System will perform the servo PID loop. This is a commercial PCI-based servo controller board. The PMAC configuration is:

- 400-603657-TRX - Turbo PMAC PCI Lite
- SC0-0TURBO-OPT - Turbo CPU option-3C, default CPU-speed/memory config.
- 302-603657-OPT - On-board 8Kx16 Dual Ported RAM for PCI or USB.
- 3D0-602205-10x - ACC-8D, PMAC(1) 4-channel breakout board
- 3B2-00028B-OPT - OPT-2B, 12-pin input terminal block
- 3A0-602678-10x - ACC-28B, 2-channel A/D converter board
- 306-00028B-OPT - OPT-6, Quad 3-channel encoder isolate board
- 301-00028B-OPT - OPT-1, Additional on board 2-channels A/D converter

**Notes on switching between T1 and T2 computer.**

The T2 computer is a spare to the T1 computers. The OS is kept at the same revision as T1. It has a PMAC control and cable enable it to be connect to the SE/FIO_E Electronic box. To switch over, follow these steps.

2. Disconnect the cable from T1 to FIO_E (SE1, SE2, SE3, N,S,E,W Vel).
3. Connect the cable from T2 to FIOE. (SE1, SE2, SE3, N,S,E,W Vel).
4. Swap the speaker cable from T1 to T2.
5. Insure the /home/to directory contains the latest TCS3 software (contact the TCS3 software person). Note that T1 has a daily cron job to rsync /home/to to irtfnas1:/home/to. Otherwise you can rebuild the TCS3 software from source.
6. Rename the host T2 to T1. This insures network communications to the TCS3 will not break due to the change in computers. File to change went rename a centos 4 system:
   - vi /etc/sysconfig/network (change hostname)
   - vi /etc/sysconfig/network-scripts/ifcfg-eth0 (change ip, etc)
   - vi /etc/hosts (check naming)
TO Area

TCS Room

FIO CD Electronic Box Opto22 FIOC hostname is t3fioe
Opto22 FIOD hostname is t3fioid

2924 Cisco Network Switch

T2 computer
Hostname is T2

T1 Computer
Hostname is T1

SE / FIO_E Electronic Box
Opto22 FIOE hostname is t3fioe

FIO AB Electronic Box
Opto22 FIOA hostname is t3fioa
Opto22 FIOB hostname is t3fiob

The Dome Structure

IRTF Network

DEC APE embedded CPU
Hostname is t3apedec

HA APE embedded CPU
Hostname is t3apeha

Spare APE normally kept off-line

Spare APE embedded CPU
Hostname is t3apespare

FIO_F Electronic Box
Opto22 FIO F hostname is t3fiof

Network Switch

Asoka Model PL9650-ETH Ethernet/HomePlug Device

Asoka Model PL9650-ETH Ethernet/HomePlug Device

IRTF Network

IRTF Layer 0 Network Switch

In the Dome

IRTF Layer 0 Network Switch

IRTF Network Input Switch

IRTF Network Output Switch

IRTF Layer 0 Network Switch

IRTF Network Input Switch

IRTF Network Output Switch

Title
T3-2090 TCS3 Computers: t1, t2, t1hilo.

Project
TCS3 Control System Upgrade, NASA IRTF

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