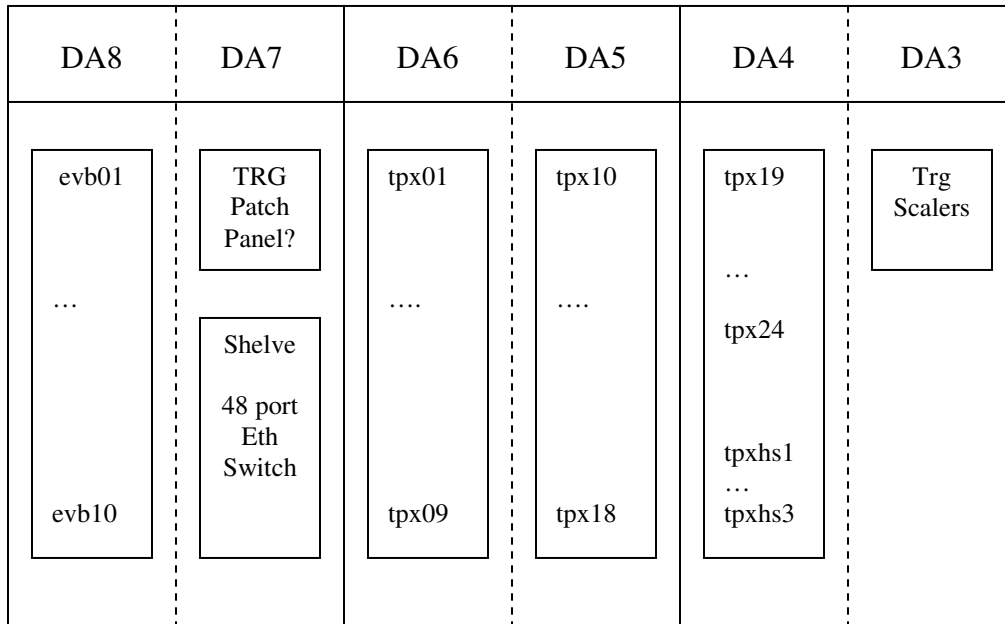


# Proposed DAQ 1000 computer setup

(7/9/08)

## Rack Space



Each computer has space above and below for cooling purposes, so the fire suppression of the rack rows should be disabled. Once it is, I propose drilling large holes in the rack rows in the DA6-7 interface and the DA4-5 interface. These holes should be at least 5x5 inches and will allow easy routing of Ethernet / KVM cables within the rack.

Other computers stay in current locations in L3 racks / 2nd rack row

- DAQMAN
- EVP
- EVBL01, EVBL02
- HFT01
- pp2pp
- TOF01
- oldGB-swap
- oldEVB01, oldEVB02
- oldGB

## **Power**

There are a total of 36 power outlets in rack rows DA3...DA8, but they are not uniformly set up. There are 14 in DA7-8, 8 in DA5-6 and 8 in DA3-4. Additionally there are 14 outlets with the 220V plugs used for the VME crates which are no longer needed. We need:

DA7-8: 12 outlets (2 Ethernet switch's, 10 EVB's)

DA5-6: 18 outlets (18 TPX computers)

DA3-4: 11 outlets ( 6 TPX computers + 3 TPX spares + 2 for TRG Scalers)

Although I would recommend a setting up for potentially needing 18 outlets in each rack.

The simplest way would be to add power strips, but we need to determine whether the power to the racks is sufficient and whether this satisfies safety rules etc...

The EVB computers power supplies are labeled as 100-240V at 4-8A, with 8A fuses.

## **KVM**

My plan is to have a single long KVM cable routed from the main KVM switch in the second rack row. This cable will be

## **Physical Ethernet Connections**

I'll mount a 48 port Gigabit Ethernet and a 24 port Gigabit Ethernet switch in the DA7 rack row. These will have all the connections from to the TPX & EVBs (47 ports, 10 \* 2 EVBs + 24 TPX + 3 TPX spares). As well as connections to L2, to EVP, and to the switch in the 2nd rack row.

The 48 port Gigabit Ethernet switch exists currently as the spare for the "daq.bnl.local" switch, although before the run we should get a spare. The 24 port switch needs to be purchased.

We need 10 connections to the RCF HPSS network switch. This switch is located in the main switch rack and has plenty of spare ports. The 10 ethernet cables will be routed directly to this switch through the floor.

## **Network Setup**

In the long term, we wish to have a separate jumbo-frame local network for event building, but maintain the non-jumbo local network for use on the MVME nodes.

In the short term, we need to maintain a single, non-jumbo network in order to support the nodes that must connect to the event builders, but do not support jumbo frames. These include (TCD, pp01?, pp02?, pmd?, 11ctl)

My proposal is to modify the ip address's of the trigger nodes to 172.16.32.x. The jumbo nodes would have addresses of the form 172.16.64-127.x.

In the short term, all nodes would use the 255.255.0.0 netmask, and logically the system would maintain a single non-jumbo network, but when there are no longer any non-compliant nodes needing EVB connections, then the connection between the "jumbo" switches and the "non-jumbo switches" would be severed and the netmasks would be changed to 255.255.192.0 so there would be no overlap between the networks.

For the "jumbo" network, the allocation would be as follows:

172.16.64.x - daq infrastructure  
172.16.65.x - evbs  
172.16.66.x - trigger nodes  
172.17.67+detid.x - detectors