Shutdown and Startup Instructions for AVED Project Beowulf Cluster
Last Updated 11/28/2005D. Cline

These are instructions to shutdown and power up all components in or on AVED project rack in the Building A communications room. For question contact Duane Edgington X1850 or Danelle Cline X1947.

Shutdown Instructions

The order of shutdown is : nanomia, beowulffish cluster, then UPS units.

There is a Miniview kport KVM (Keyboard-Video-Mouse) switch in the back of the rack that switches the display between *nanomia* and *beowulffish*. Open the back of the rack and at the bottom you'll find the KVM switch hanging loosely near the bottom as we've been unable to find a place to conveniently mount it (Velcro didn't work). There is a switch on the side of the Miniview box - push this until the led is lit for the machine you need. .

1. Switch KVM box to *nanomia.*

2. Login as root to nanomia, root password: v3NtaNa

3. Shutdown nanomia with shutdown command. This will do an abrupt shutdown and will not tell ogged in users to logoff.

   [root@nanomia root]# shutdown –h now

   For a more graceful shutdown that tells users to logout in the next 10 minutes, use

   [root@nanomia root]# shutdown –h +10 "System will shutdown in 10 minutes. Please close any running applications and logout"

4. Switch KVM (Keyboard-video-mouse) box to *beowulffish (noted as **beofish** on KVM switch).*

5. Log in as root. root password: p3Nguin

6. Open a terminal window; enter command to shutdown all cluster nodes from the master node beowulffish. Note this will only shutdown nodes and **not the master node**.

   [root@beowulffish root]# pshutdown –w
   Running shutdown –h now on node1
   Running shutdown –h now on node2
   …
   Running shutdown –h now on node8

   wait about a minute for all nodes to shutdown

7. Check that all cluster nodes have shutdown with the *pup -w* command

   [root@beowulffish root]# pup -w

   if you see:
   node1 is up
   node2 is up
   …
   node8 is up

   This means the nodes have not completely shutdown. Wait, then retry the *pup –w* command.

   [root@beowulffish root]# pup -w

if you see:

node1 is NOT responding
node2 is NOT responding
…
node8 is NOT responding

all nodes are shutdown.

8. Shutdown the master node *beowulffish*

   [root@beowulffish root]# shutdown -h now

   wait about a minute for the master to shutdown. You should see the typical Linux shutdown sequence, ending with something like:
   …
   Shutdown: hdb
   Shutdown hda
   Power down.:

At this point, the cluster is shutdown, but the nodes, RAID, and UPS units still have power. Now turn off all power in the order: *nanomia, beowulffish, nodes,* then UPS units.

9. Turn off *beowulffish* master node by pushing the Reset/Power button – the LED's on the front panel will turn off.

10. Turn off *nanomia* master node by pushing red power button on the bottom right.

11. Turn off *cluster* nodes in any order. To power off a node, push ***up and hold for 5-10 seconds*** the power button labeled "Power" on the front panel. The front-panel green led will turn off when power is removed.

12. Turn off NStor RAID. On **rear** of unit, there are two power buttons just above each fan.

13. You should be able to turn off UPS units in any order. Sometimes it works better to try the upper UPS first. ***Do not change the power cables to/from UPS – this is load balanced for the rack system.*** To power off the UPS units, press button labeled "o" – this is directly beneath the power button labeled "I test". This is easiest to do with a pen. The UPS will beep until completely powered off.

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Startup Instructions

1. Power on UPS units

   Turn on UPS units in any order. Turning on the UPS will power on the RAIDs. To power on the UPS units, press button labeled “I Test” on the front-panel for each of the two UPS units.

2. Power on XServe RAID is needed (this should power on automatically with UPS power). On **rear** of unit, there are two power buttons just above each fan.

3. Power on NStor RAID. Power switch is above fans on left side. There are two switches per each UPS. Orange LED indicates unit of off; green LED indicates unit it on.

4. Power on *nanomia*

   To power on *nanomia*, push up the power button labeled “Power” on the front panel. The front-panel green led will turn on and the red led will begin to flash when power is on.

5. Power on *beowulffish* master, followed by nodes

   To turn on *beowulffish* master node, hit the Rest/Power button – the LED’s on the front-panel should light when power is turned on.

   To power on a node, push up the power button labeled “Power” on the front panel. The front-panel green led will turn on and the red led will begin to flash when power is on.

Miscellaneous:

To reset NStor RAID, use front button labeled “Reset Alarm” – all green LED’s in front. Wait 5 minutes for beowulffish to remount the RAID.

The NStor RAID, XServe RAID, or the UPS units will beep if something is wrong (e.g a disk is bad, the UPS is in battery mode, the UPS is overloaded, etc. Please report to Duane Edgington, or Danelle Cline to diagnose the problem.