Rebuilding Hard Drives on the NAS's
September 2013, by Jordan Robertson

The following outlines the order of operations to rebuild a hard drive, in the instance of a drive failure on either nas0 or nas1.

1. If the machine is still on, perform the proper unmounts (from the CE, SE, and compute nodes), and shut down the machine.

2. Start the nas back up, and watch the boot progress closely, watching for the option to maneuver into the RAID software (MEGARaid) mode using the ctrl-H key combination.

3. Enter the RAID software using ctrl-H, and select “ok” for the RAID setup (there's only one). As a note, to turn off the alarm, click the speaker icon in the top left corner. This will temporarily silence the alarm, so you can actually think while you work.

4. Navigate to the bad drive. This should be apparent, but if not; the number printed on the front of the bad drive (format # : #) tells you which virtual drive it is a part of (0 or 1), and the slot on said virtual drive (many options).

5. Go into the drive info, and if not already offline, choose “make offline”, then “Go”.

6. Now, choose “mark as missing”, then physically remove the drive from its slot. Separate the carrying case from the drive, attach the case to the new drive, and put the new drive back into the empty slot.

7. After replacing the drive, go back to the software and select “make unconf good”, then “Go”.

8. If a rebuild begins automatically, allow to run. If it fails (it will commonly do this), abort the rebuild, then retry by choosing “rebuild”, then “Go”. This second attempt should always work.

9. Let run for necessary amount of time (12-24 hours), and once finished, restart the machine.

10. After fully restarting, re-mount appropriate directories on the CE, SE, etc.

11. To get a new drive from Silicon Mechanics, you need to file an RMA. To do this, you can either call the company at (866) 352-1173, or email them at support@siliconmechanics.com. The information they need is:

   • the account (Florida Tech HEP A group?)
   • the serial number of the hard drive (look for “S/N” on the drive, it's the number after that)
   • the model number of the hard drive (look for “M/N” on the drive)
   • the serial number of the NAS (small sticker that has “S/N”, and then “SM ######”)
   • the mailing address to where the new drive should be sent

12. Once the new drive has been received, you must send the bad drive back to them. They will include return postage with the new drive they have just sent you, all you have to do is pack up the bad drive and mail it off.