Transferring Data from an Old Hard Drive

By Dirk Hart

Yesterday the winds shifted and blew from the north east. Any sort of trouble can blow in on these winds and one of my clients called to report they had their fair share of trouble.

The machine I had installed in 1993 had developed a problem with the hard disk controller. I quickly checked with the manufacturer and they had never even heard of EISA SCSI controllers and don't even put ISA slots in their machines anymore.

Since this client had a new SCO Unix machine they had not yet put in production I decided to brave the elements and see what could be recovered from their old SCSI hard drive. For sometime this client had known that their daily backup did not include all the files that they needed to restore in case of a disaster, but had neglected to rectify the situation nor inform the computer nerd. There was no choice except to attempt to read the old drive.

The old hard drive was quickly removed from the old machine and found a perch on the new machine which I had opened and turned on its side. I think this sort of computer wrangling might be the computer nerd equivalent of what caballeros and cowboys do when roping cattle.

In the same way that cowboys have lariats and lassoes the well-equipped computer nerd has a SCSI to SCSI-3 adapter in his briefcase and I used mine to connect the SCSI ribbon cable to the old hard drive. A power connector was fished out of the innards of the new machine and plugged into the old hard drive. In 1993 hard drive manufacturers had not yet had the idea that all SCSI hard drives should have a jumper pin chart on them. Being in a rush I took a jumper from the well-equipped computer nerds' briefcase and applied it to the jumper pins. I'm sure I could have found a configuration chart on the web for this hard drive but this customer didn't have any high speed internet access and 'swag' seemed more expedient than exact science. And on the second try the new machine's SCSI controller told me there was a drive on SCSI ID 0 and another drive on SCSI ID 4.

Editor's note:

It's easy to get confused about partitions and divisions, particularly because other OS's (like Linux) do this sort of thing differently. Most SCO systems have ONE partition, and that partition is divided into multiple divisions. File systems are created on divisions, not partitions. In Linux and some other Unixes, filesystems are created directly on partitions.

Further confusion is caused because most of us will automatically refer to the "swap partition"- on SCO, we know what we mean, but it usually is not a separate partition- it's a division in a partition.

See "man HW hd" for a description of what device nodes refer to what, and remember that "fdisk" creates partitions, "divvy" divides partitions, and filesystems are created on divisions. SCO systems can have more than one partition, and each in turn would be divided into divisions for filesystems, but normally SCO would have one large partition covering the entire drive.

When the machine had booted into single user mode I used mkdev hd to describe this drive to sco unix and when prompted typed in adapter 0, SCSI ID 4 and LUN 0. The new machine wanted to build a new kernel and when it was done I rebooted the new machine. Back in single user mode I tried to mount /dev/hd11 on /mnt. Of course this didn't work because although I had described the drive to the system, I had not described the existing partitions and divisions on the old hard drive to the new system. I ran divvy /dev/hd10 (/dev/hd10 is the second drive; the first one is /dev/hd00) and noticed that none of the divisions were named. You can't mount a division if it ain't got no name so lacking imagination I named the first one old0 and the third one old2. I was not interested in the second division since it seemed to be 16MB in size which is double the amount of memory in the old system; I figured this was the swap division. (Yes, this client had been running their entire business on a unix server for over seven years on an eight MB machine. Such is the power of Unix.)

Again I tried to mount /dev/hd11 /mnt. No Joy! I realized that the filesystems had not been shut down properly because of the controller failure and ran fsck /dev/hd11. I then mounted the first division (/dev/old0) and saw the files I needed and copied them to the new hard drive.

Copying the files took about 10 minutes. I shut down the new system, removed the old hard drive putting it in the safe, closed up the new system and rebooted.