The CFC 16 to 1 Hard Drive Wiper

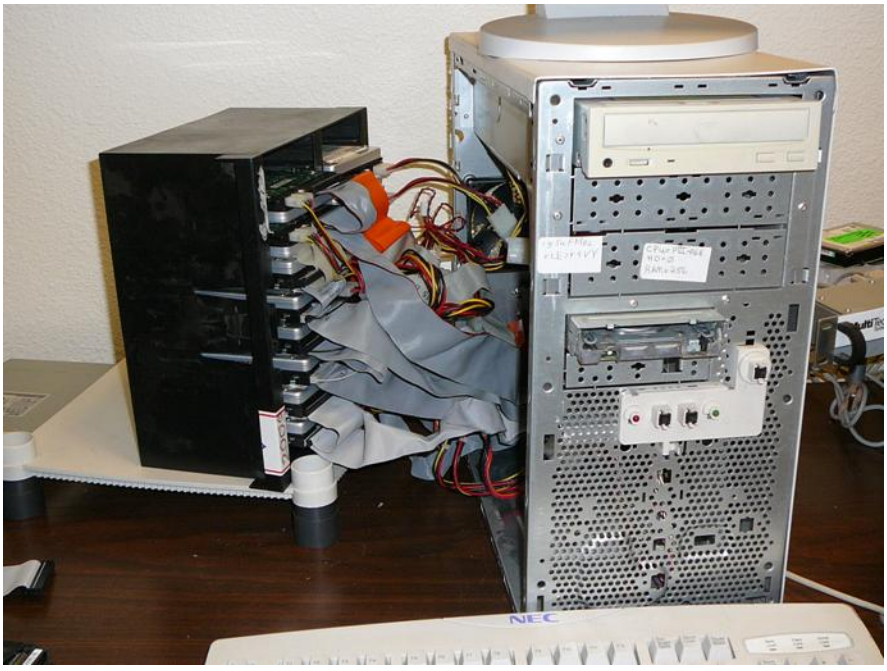
Computers for Classrooms (CFC), a non-profit computer refurbisher, has been dedicated to wiping or destroying all hard drives we receive as donations for the past four years. We have tried a variety of solutions that has lead us to our new, improved method of wiping.

We use Blancco Disk Wiper software to do a three pass U.S. Department of Defense wipe. We have found that Blancco is faster than other software we have tried as well as picking up bad sectors on the drives. We don't want any bad sectors skipped as that would mean that not all of the drive has been wiped. If bad clusters are discovered and the drive is large enough to be worth additional time, we have other tools we can use such as Spinrite, Easy Drive and various other programs. Some drives need to be "unlocked" by using a DOS command.

In the past using 8 computers, a KVM switch box with one monitor and keyboard we could wipe 16 to 24 drives. There was a lot of manual labor involved as well as hardware failure. The system took up a lot of space and required a lot of power. Expanding the system was not easily accomplished.

Blancco announced that they had a software solution that would wipe 16 drives using one license. This would mean that the cost of licensing the wiping of hard drives could be reduced substantially and would make it feasible for non-profits to be able to afford.

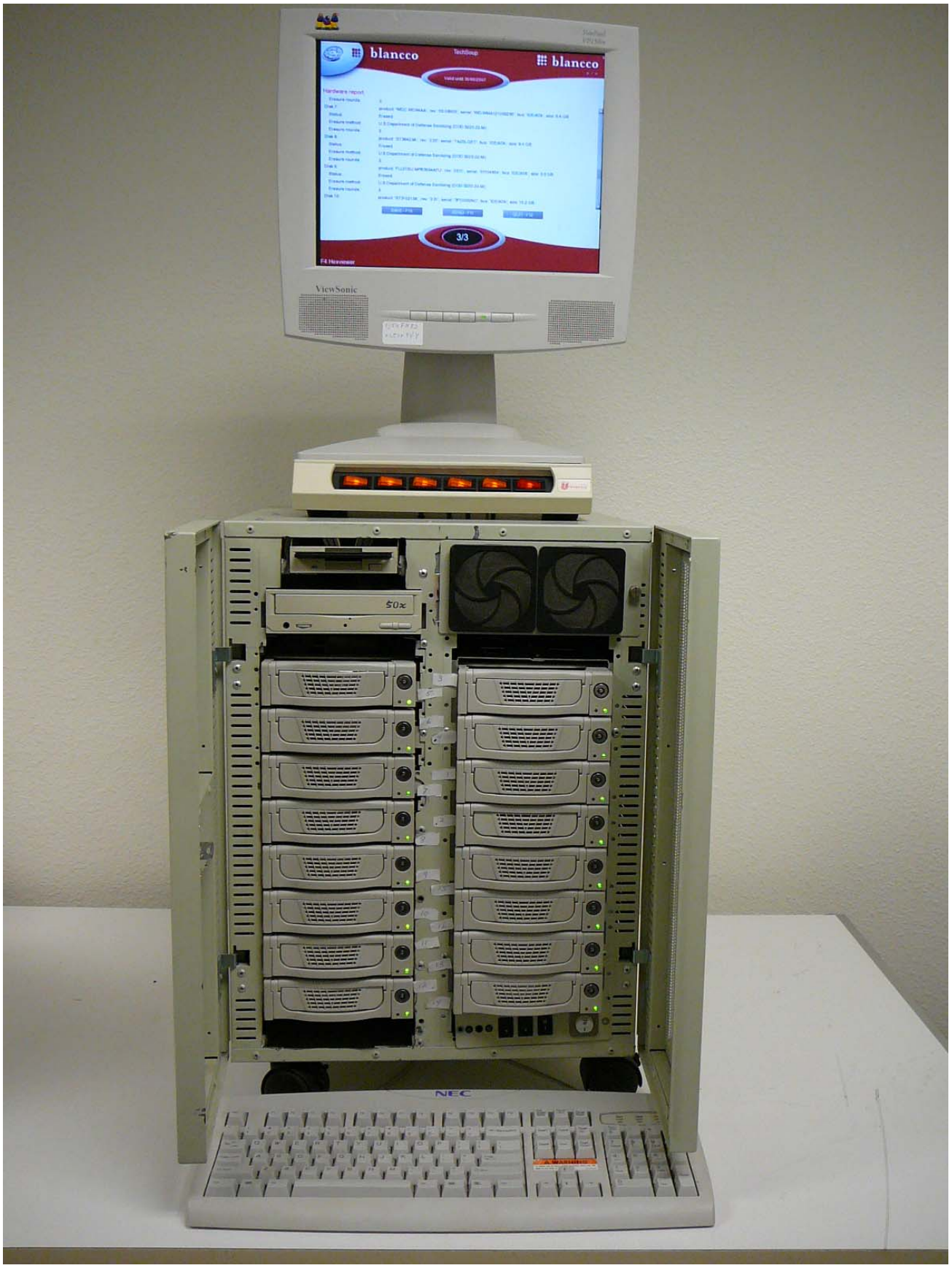
To test the process we set up a computer (case off), inserted two RAID cards and found that we could wipe 8 hard drives very easily. The RAID cards we purchased were 2 channel, PCI to IDE cards. Each card has two IDE slots which can then handle two cables which can be connected to hard drives with their jumpers set to master and slave. The RAID cards do not need to be expensive as they are only using RAID functions 0 and possibly 1. I purchased a couple of more expensive cards off of E-Bay but they were OEM versions and would not recognize each hard drive individually. I found some RAID cards from PCI Micro for $15.99 each that are working fine.



It's ugly but it worked – sort of. The drives needed better ventilation.

After we knew the software and the RAID cards worked well together, we started thinking of a more elegant solution.

Scott Wahl, one of our very talented warehouse workers, picked out a server case and mounted 16 hard drive caddies. The drive caddies cost $9.99 each and the extra trays only $2.25. While the first group of 16 drives is wiping, we set up the next 16 drive trays so they will be ready to slip in as soon as the first batch finishes. We also installed a CD drive, floppy drive and network adapter. The motherboard you select will need 4 or 5 PCI slots depending upon the need for the network adapter if it isn't build in. Another solution is to buy two 4 channel RAID card that each has 4 IDE slots. You would only need two onboard PCI slots. The four channel cards were more expensive than the two so we opted to use the less expensive solution. The number of channels refers to the number of IDE slots available. Remember each channel holds one IDE cable which can connect to two IDE drives – with the jumpers set to master and slave.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We found that heat can be a problem. We use two power supplies in our server case with 8 drives powered by each. Each drive will need power to the caddy so in the earlier version we used power splitters. Scott has been able to chain the power connectors in the newer version.

You will need 8 IDE cables capable of handling two IDE devices and be able to plug into the RAID adapter. We were able to find some longer cables from ComputerGate.com that were 36 in. with 2 adapters Ultra ATA/133 for $6.95. They have shorter cables as well. The server case and longer cables made assembly much easier.

You can do a search on pricewatch.com for hard drive caddies. We were able to get Genica caddies for $9.99 and replacement caddies for under $2.50. They make much fancier caddies with built in fans and aluminum trays. We opted for the less expensive system and for adding fans to the case. These hard drives will not be installed for a long period of time and will be removed after wiping. We haven't had a problem with heat after using the server case and extra fans.

Blancco has had excellent support on-line although our business cycles are 12 hours apart so email often takes a day for a response. They have configured our software so that we do not need to enter our logon and password each time.

We set our wiper to boot from the Blancco CD in the CD-drive. Blancco will send you an evaluation program so you can compare it with your present program. The offering made through TechSoup for the MAR refurbishers allows us to save our results on a computer in Finland. By logging in to the server you can retrieve your wiping results. They may also be saved to a floppy disk. Blancco adds a digital signature so that they can prove the file has not been edited.

You can give your donors a written copy of their wipe results including the serial number of the drive, the size of the drive, the method of wiping used and the results. We believe that for larger donors having the extra assurance of the written report for their files will be a real bonus.

Once the wiping results have been save, we pull the drives out of the caddy, insert the next batch that has already been loaded into the extra caddies, and start up the server to wipe the next group. While the next group is wiping, we remove the drives, check them against our hard copy for successful wipes with no bad sectors and store them according to size. The drives that were not recognized or that had bad sectors are treated separately.

Some drives can be saved through using other tools such as Spinrite. Some drives need to be destroyed.

In our early years this spike worked when used with a hammer

Drilling hard drives was more efficient but metal shavings and dull drill bits were problems. The drives could not be used but there would be some possibility that information on the disks could be recovered in a “safe room” with an electron microscope.

Garner HD-3

Our newest item is a Garner HD-3. The hard drive is inserted in a slot on the left of the Degausser. After the green button lights up, we press it, the needle on the gage goes into the green area and the hard drive drops down the chute. The entire process takes ten seconds. We can easily do 200 hard drives per hour. An 8,300 orsted capacitor gives a brief magnetic jolt to the drive. The drive is destroyed and cannot be reused.

This is a very safe method of handling hard drives as all of the media inside the drive is destroyed. You can neither read nor write to the drive once it has been degaussed. It can be sold for its scrap value but you can be assured that **nothing** can be retrieved even with an electron microscope. The Degausser could be moved on site to another facility if security is even a greater issue.

In order to continue getting a good stream of computer systems for reuse we must be able to provide a reasonable solution to donors that their data can be wiped in a responsible manner.

If you need further information or assistance you can contact:

Pat Furr, President/CEO

Computers for Classrooms
(530) 895-4175 Office
(530) 521-9782 Cell
(530) 895-4075 Fax
pfurr@chicousd.org

Blancco: Jacob Wilkinson
(530) 228-2743 Cell
jacob.wilkinson@blancco.com