

EQUIPMENT DISPOSAL – SUMMER 2010 COMPUTER REPLACEMENTS

OVERVIEW

BVSD voters approved an annual technology refresh initiative allowing the district to replace computers on a regular cycle. Existing computers (some up to 15 years old) have been disposed of in an environmentally sensitive manner through paid recycling services.

By 2009 all computers in the district have benefited from at least one upgrade cycle, and 2010 will be the first year of replacing computers that are new and powerful enough to be "upcycled" for reuse, potentially saving the district recycling costs and returning benefits to the community.

We anticipate that the majority of systems appropriate for upcycling will be desktop systems both because fewer laptops are in use at the schools and laptops typically have a shorter lifespan. Computers will become available at various times during the summer months as replacements are installed.

Special thanks in the development of this document go to Fred Gluck (community volunteer), Francie Anhut (Impact on Education), Tony Jiron and Damian Tate (BVSD Computer Science) and Jack Bell (CU). They have helped develop these possible strategies and are willing to consider further assistance in bringing them to fruition.

GUIDING PRINCIPLES

The BVSD IT department has researched various options and has identified several underlying principles which should guide decision making in the disposition of this resource.

1) Retired computers must not rejoin the district computer system.

The district has limited resources in network ports, software licensing, infrastructure wiring, help desk/support services, etc, which comprise the majority of costs in supporting a computer. Although it is tempting simply to see retired computers as free resources, adding them back into the BVSD system would quickly overload our support capabilities.

In addition, the district works carefully to ensure a fair distribution of computers among schools. Any single school bringing retired computers back into the system upsets the agreed upon equity distribution and creates dissension.

2) Retired computers must be redistributed in an environmentally responsible manner.

Although the district proposes reusing these computers rather than slating them for immediate recycling, the eventual disposal of the hardware is still an important consideration. A transfer of ownership relieves the district of direct responsibility for an approved recycling procedure, but selected programs should be sure to address this issue through education, the use of recycling vouchers, etc.

3) Retired computer upcycling programs must be primarily community driven.

At current staffing levels, the IT department does not have the resources to implement a full scale computer upcycling program. Although we are excited about these possibilities and will aid as constraints allow, to be successful and self sustaining any initiatives to reuse retired computers will need to be championed and staffed primarily by volunteers.

POSSIBLE PROGRAMS

With these principles in mind, various suggestions for redistribution have been researched, each with specific pros and cons. No single option provides a "silver bullet" comprehensive best upcycling method, but by dividing the available number of computers between the various programs we believe that all retired systems can be used to the benefit of the district and the community.

Although many options exist, the current proposed set of programs includes:

Provide computers at no charge to free/reduced lunch seniors continuing their education. Systems would be refurbished with a basic operating system and set of programs before distribution to students. Tech support, disposal, etc will typically be handled by the higher education entity.

Teacher/Staff buyback program. Computers would be refurbished and provided with basic operating system and programs. The systems would then be made available to BVSD teachers/staff for a minimal charge (for 2010 estimated at \$50-\$100). These computers could potentially be configured with additional RAM, educationally discounted software, etc. if resources to do so are available. Support and disposal become the responsibility of the end user.

BVSD computer science curriculum. Some retired computers could be used as part of the current BVSD computer science program, including projects such as hardware training/repair or the creation of a parallel processing render farm - computer science teachers could submit other specific requests for consideration. Support is not required since these would no longer be end-user machines, but disposal at the end of such projects would still be a district responsibility.

Provide computers at no charge to at risk BVSD students. Although potentially the most beneficial use of the computers, this is also perhaps the most difficult to implement. Issues include provision for training and support for the computers to ensure that they are used appropriately, and provision of internet access. Low income families may not have this amenity and the district does not currently have any way to provide internet access for homes – in this situation the value of computers without internet access has been questioned. This issue is far from resolution, as other surveys have suggested that internet research may be done at schools and easily transferred with a flash drive, and that internet access at homes where kids may be unsupervised has potential for undesired usage.

At this time there is an informal program of this type already happening within BVSD, but it is not supported by the district and has no formal review process for evaluation. To move forward with this potentially valuable program the district should implement a well planned and supervised pilot to determine the importance of these various issues and to measure actual impact on student achievement. Environmentally appropriate disposal could become an issue, especially if a donated computer is not useful due to a lack of training or internet access.

Select out-of-district programs. As examples, CU engineering students have requested 100 PC's for distribution through their existing mentoring program to at-risk students, and groups with 3rd world affiliations have requested computers for newly created schools. This program primarily targets general community benefit rather than specific BVSD issues. Support and disposal issues become the responsibility of these organizations.

Computer "Buy Back" credit program from vendors. This option exists with HP, our current computer system vendor. Although the amount per computer is small (and continues to decrease as the systems age) this program scales to the entire projected number of computers, is easy to implement, and provides some return to the district in the form of credit toward future purchases. Support and disposal issues transfer back to the vendor.