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The Cost of Storing Retired Computers: It's Higher Than You Think

EXECUTIVE SUMMARY

When the question comes up about what to do with computers that are no longer needed, the answer for many organizations is to put them in storage. According to the a March 2007 article in *Computerworld* ("Tech Trash," 03/26/07), a recent Gartner survey showed that 17% of executives surveyed by the research company handled disposal of their old PCs by storing them. When you consider how many retired computers there are today — 500 million, according the *Computerworld* article — that amounts to a lot of computers sitting idly in closets while their owners decide what to do with them or until they need them as sources for parts.

But what's the harm in storing computers when they're no longer useful? At least they're not ending up in the hands of someone looking for identity information to steal, or in some landfill contaminating the environment. That may seem like a reasonable conclusion, but the reality is that the data security and environmental risks of storing computers aren't that much lower than the risks of just throwing them out. After all, computers in closets can be stolen — along with all the sensitive data they contain. And if there are *enough* systems in closets, they may even qualify as hazardous waste based on U.S. Environmental Protection Agency (EPA) standards. Aside from the data security and environmental risks, there's also the likelihood that systems in storage will devalue to the point of being worthless, eliminating any possibility of value recovery that might have existed when they were initially retired.

Those are good reasons to think twice before locking away old computers. But if they can't be tossed in the garbage, and they shouldn't be stored, what's the alternative?

This paper will:

- examine in detail the risks of storing obsolete systems
- explain why organizations choose to store systems despite the risks
- discuss the alternative of devising a low-risk, high-value strategy for systems disposal

Storing computers when they're no longer needed may seem like a reasonable choice for many reasons. But it's a choice that's fraught with risk and one that in most circumstances should be avoided, as this paper will make clear.

THREE GOOD REASONS TO SKIP THE STORAGE OPTION

DATA SECURITY RISK:

If you think you're keeping old computers safe and secure by keeping them onsite, consider these recent incidents logged by the Privacy Rights Clearinghouse.

- At Notre Dame University in early 2007, a file with confidential student information on it – including Social Security Numbers – was mistakenly left on a decommissioned computer. The computer was later reactivated and connected to the Internet, rendering the information available through a file-sharing program.
- The U.S. Department of Agriculture reported in 2007 that a total of 95 of its computers were lost or stolen during a six-month period from 2005-2006. Two-thirds of the computers contained unencrypted data, and some may have contained personal information including Social Security numbers.
- At a Tennessee hospital in 2007, patient information including names and Social Security Numbers was compromised when two computers went missing.

That last example is a reminder that organizations in certain industries such as health care and financial services are governed by regulations protecting the privacy of patient or customer information. The price for violating these rules can be steep. Penalties for noncompliance with the privacy provisions of the Health Insurance Portability and Accountability Act (HIPAA), for example, include fines of up to $250,000 and jail sentences of up to ten years.

ENVIRONMENTAL IMPACT

The risk that computers in storage may be stolen represents not just a data security risk, but also an environmental risk if those systems end up in a landfill somewhere after the thieves are done with them. And the environmental impact may be equally undesirable – albeit in a completely different way – if they're *not* stolen. That's because the hazardous materials found in retired computer equipment (particularly monitors, which can leach lead if they are in disrepair) may qualify the equipment as hazardous waste as defined by the EPA and the Resource Conservation and Recovery Act (RCRA). Lock away enough out-of-commission computer systems, and your storage area may end up being classified as a hazardous waste dump.

ECONOMIC CONSEQUENCES

Computer systems usually retain some value when they are retired. They may no longer meet the needs of their current owners, but they are likely to still be of value to an organization with different needs. However, this value erodes while systems are sitting in storage. After a certain point, they are of no value to anybody. So, while there may very likely be an opportunity to recover some of the value of computer assets by selling them to a reputable refurbisher and reseller of equipment, it won't last forever. After a certain point, no one will pay an organization for them. In fact, the organization will instead have to pay to have them disposed of properly.

There are other negative economic implications of storing retired computers. For one thing, they can take up a considerable amount of valuable space that could be used for more productive purposes than storage. For example, if you dedicate 1,000 square feet of warehouse space to storing retired systems, and you're paying $5 a square foot per month, that's an annual cost of $60,000 that's being wasted on storing equipment that no one uses.

Assets that do not contribute to an organization's productivity can also exert a negative effect on return on investment (ROI). The *CPA Journal* sounded the alarm about this as far back as 2004, when it encouraged organizations to properly dispose of retired equipment rather than storing it, pointing out that "Not only does disposal reduce the average investment (denominator of ROI), it can also improve net income through gains on sales or reductions in tax payments (numerator of ROI)." Reluctance to dispose of retired systems may stem to some degree from the misconception that decommissioned systems that still have value on the books are best stored until the book value depreciates to $0, if there is no mechanism in place to approve a write-off. But the reality is that the expense will be the same whether the systems are stored or disposed of – and by disposing of them sooner rather than later, the organization stands a good chance of recovering some value from them.

THREE DUBIOUS REASONS TO PURSUE SYSTEM STORAGE

Despite the well-documented security, environmental, and economic risks of storing retired computers, some organizations choose to do it anyway. There are three major reasons for this, all stemming from certain myths and misinformation about storage.

PERCEIVED ABSENCE OF ALTERNATIVES (or "What Else Are We Supposed to Do with It?")

The Myth: Since it doesn't cost anything and doesn't require any special attention, storage seems like a perfectly good choice. What else are you supposed to do? Throw it in the trash? Pay some guy with a truck to haul it off? Who knows where it will end up?

The Reality: There may not be an obvious cost to internally storing equipment, but the low-value use of space, the ongoing devaluation of the equipment, and the potential regulatory and environmental liabilities can add up to real-dollar costs.

The Alternative: Engage someone with specialized knowledge to handle asset disposal for you. If your systems are candidates for reuse, they'll pay you for them and then refurbish them for resale. If not, they'll dispose of them in a secure, environmentally sound way for a reasonable cost.

HOPE OF FUTURE REDEPLOYMENT (or "It's still perfectly good; maybe we'll need it again")

The Myth: Since the systems still work, why not keep them around in case a new office needs them, or somebody's old system needs to be replaced, or systems need to be repaired (after all, you can use the old parts)?

The Reality: There are a few circumstances in which an organization has a realistic expectation of redeployment of stored systems – because they were retired before the end of their useful lives due to an office closure, for example. But the key word is "few." Not only that, keeping systems around "just in case" is an invitation to theft and data security breaches.

The Alternative: Turn the systems over to someone who'll be sure they'll be put to good use. A reputable electronics asset recovery company will pay for these systems, completely erase the data on them, and prepare them for resale on the open market. The funds generated from this can be used toward the purchase of new equipment when the need arises. (Or, if you really do think you'll need the original assets again, you can negotiate with the firm to erase the drives, refurbish the systems as needed, and warehouse them for you until you do need them, up to a specified period of time.)

LACK OF FORMAL PLANNING AND BUDGET FOR PROPER DISPOSAL (or "Oh, come on, how hard can it be?")

The Myth: Dealing with old computer systems isn't brain surgery; pretty much anyone can do it. So why not just have somebody who's already handling paper and supplies storage handle it?

The Reality: Without a plan for disposal in place, systems are most likely going to end up stored in a warehouse somewhere until the space is needed for something else. Then the department handling the storage is going to have to figure out what to do with them. With no official criteria for that, the systems may be disposed of improperly or even illegally.

The Alternative: Budget to assign someone official responsibility to contract for systems disposal based on specific criteria for data security, environmental safety, and other critical areas associated with systems disposal.

THREE STEPS TO A VALUE-DRIVEN, ASSET RECOVERY BASED STRATEGY

As long as organizations rely on *ad hoc* solutions for disposing of retired computers, systems are going to end up in closets and warehouses wasting space until someone decides to get rid of them – someone who, understandably, may have no idea how to go about that in a secure, environmentally sound way.

ESTABLISH A BUDGET

Some of the worst consequences of storing retired computers result from the lack of any budget for an official disposal program. What do you get for such a budget?

- A formally selected, designated person who is accountable for making sure retired assets are handled in the organization's best interests.
- The establishment of a set of criteria for disposing of systems that is compatible with the organization's goals and requirements (see "Devise a strategy" below).
- A return on investment: The systems won't be sitting in warehouses losing value, and you will likely be able to recover value from them that will more than offset what you've budgeted to dispose of them.

DEVISE A STRATEGY

Once you've budgeted for a program for retiring computer assets, the first order of business for the person heading this initiative should be to establish criteria for disposal based on the requirements and risks that are specific to your business. Questions like these will be useful in the process:

- How many computer systems do you typically retire in a given period of time? Ten every month? 3,000 twice a year? Something in between? In other words, define the scope of systems disposal activities for your organization.
- What environmental regulations affect your organization? Are there state or local regulations involved beyond the federal EPA requirements?
- What about other regulations? For example, is your business subject to federal or local laws protecting data privacy – or both?
- How frequently is redeployment a real possibility for your organization? Have you ever actually brought systems back out of storage for internal use? How regularly?

CHOOSE THE RIGHT PARTNER

Proper disposal of retired computer assets requires specialized expertise and capabilities for data erasure, hardware disposal or recycling, environmental handling, and system reuse. Contracting with a reputable company that specializes in electronics asset disposal / recovery will ensure that these needs are met.

There are a number of factors to consider before moving forward with this approach. For example:

- Do you lease your systems? If so, the company you work with almost certainly will have a system in place for handling asset recovery.
- Do you buy your systems? If so, you may be able to utilize a trade-in program from your hardware vendor that will cover this aspect of your IT business. Or you can elect to do it yourself by contracting with a company that specializes in asset disposal and recovery.
- Do you have a systems integrator who works with your IT department? This may also affect whether you contract for services yourself or allow a consultant to do so.

If you will be entrusting the disposal process to a lessor, vendor, or systems integrator, you'll want to be sure that the company has the resources in place for securely erasing the data on your hard drives. If you will be handling asset disposal yourself, you'll have a number of important things to consider, from whether the company you contract with is the right size to handle your specific needs, to the breadth of services it offers, to its record and reputation with regard to data security, environmental, and other critical issues.

TEN QUESTIONS TO ASK ASSET DISPOSAL / RECOVERY VENDORS

The process of choosing a company to deal with your retired computer equipment should not be undertaken lightly, and ultimately will require extensive due diligence with regard to specific qualifications and other aspects of their business. But you can begin by asking these basic questions. A company that doesn't have satisfactory answers is probably one you will not want to pursue further.

1. How do you ensure systems' physical security before they go through your processes?

2. Do you apply bar codes and collect serial numbers to track systems entrusted to you?

3. Do you follow DoD standards for erasing data from hard drives?

4. Do you manually inspect drive sectors to be sure no data remains after a data erasure process has been completed?

5. If data remains on a hard drive, do you have degaussing capabilities to disable the drive or other capabilities to destroy the drive?

6. Are your facilities ISO 9000-certified to meet standards of quality for process management?

7. Do you provide documentation of your processes?

8. Do you provide full reporting upon completion of processes?

9. Do you offer indemnification in case there is a problem with data security?

10. What sales channels or procedures do you have in place to maximize recovery values for systems, parts, and raw materials?

Of course, this is not an exhaustive list of questions. But it should provide you with a foundation for establishing selection criteria. Asking these questions will at the very least ensure that your systems end up being handled by a qualified professional – and not hauled off to a landfill by an unscrupulous scrapper.

THE ONE KEY POINT TO TAKE AWAY

Storage can be a surprisingly risky and costly means of dealing with retired computer systems; a better alternative is to budget for a formal program that addresses this issue – which may involve signing up for a vendor trade-in program, or relying on a systems integrator to handle disposal, or directly engaging the services of an appropriate third party that specializes in this area.

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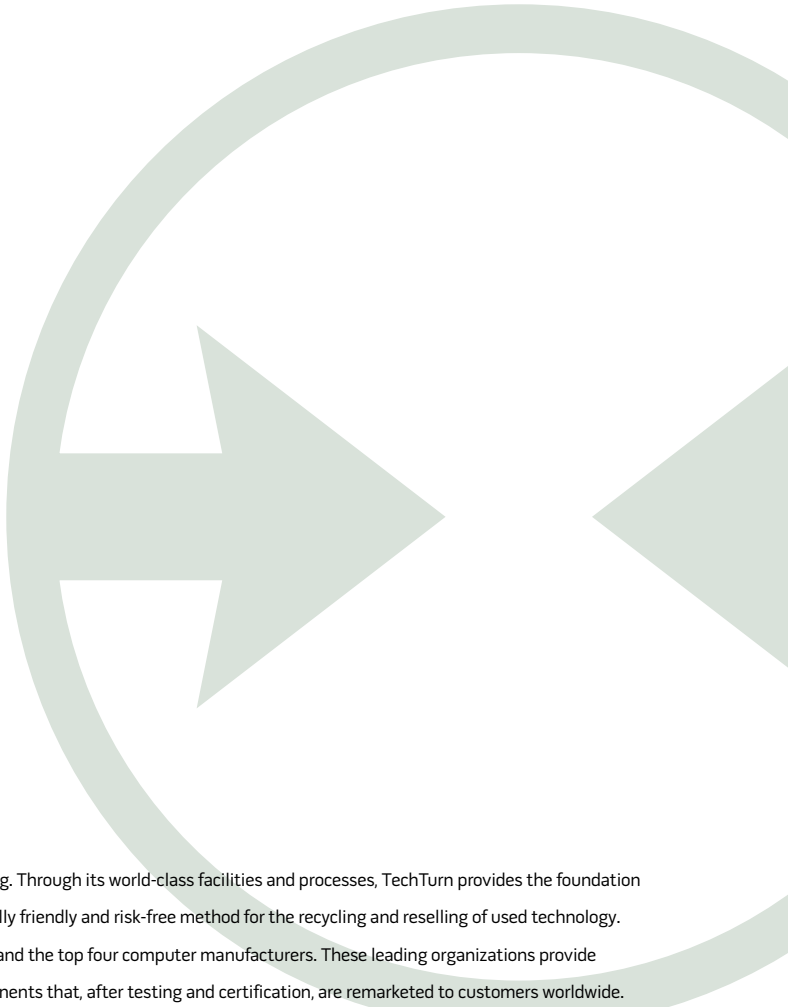
[1] The widely used DoD (Department of Defense) standard for disk erasure is a three-pass process that requires first writing 0s over the entire drive, then writing 1s over the entire drive, and then writing a random sequence of 0s and 1s over the entire drive.

[2] Degaussing exposes a hard drive to extremely high levels of magnetic fields, completely eradicating the data and rendering the drive unusable.



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