Asset recovery

Balancing risk and opportunity

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Executive summary

As businesses replace IT equipment that no longer meets their needs, they face a challenge. You might call it the "end-of-use dilemma."

The exciting side of the equation is deciding what new technology to deploy, how to finance the purchase or lease, and how to capitalize on expected enhancements to capabilities and productivity.

Deciding what to do with older or surplus equipment taken out of service may lack the appeal of acquiring and deploying new gear, but the disposition process presents an important opportunity—as well as risks. By thinking ahead, companies can minimize or eliminate risks associated with disposition of IT equipment and maximize upside possibilities.

End-of-life planning must be integral to any IT program.

Risks and rewards in the asset recovery process
The risks in disposition and asset recovery of IT equipment can be significant if not properly managed. Data security tops the list. Surplus equipment may contain customer account information or other proprietary data that must be secured, then thoroughly erased or destroyed.

Environmental concerns also are critically important. Electronic equipment often contains heavy metals and other hazardous substances, and must be refurbished or recycled properly. Careless handling can endanger people and the environment, and expose the enterprise to legal liability and damaging publicity.

Loss of asset value also poses a significant risk. Even near the end of its lifecycle, much IT equipment is still usable. As time passes its value continues to decline, even as the cost to maintain and warehouse these assets rises. Fast action can reduce holding costs and return maximum value to the bottom line.

Managers responsible for the asset recovery process must answer this question: Can they afford the resources to inventory, store, ship and market reusable gear, and to properly manage disposition of the rest? Can they avoid wasting time and money on a process that, while important, is far from their core competency?

Opportunities in asset recovery
A professional asset recovery program provides a golden opportunity to find value in older equipment and enhance the organization's reputation for environmental care and management skill.

Many organizations won't require enough asset recovery work to justify developing the necessary specialized knowledge and skills. A better answer for them may be asset recovery outsourcing. Assigning the work to an outside contractor can provide access to specialized skills: logistics (inventory control, transport and storage), data wiping, equipment refurbishment and resale, and environmentally responsible recycling. The contractor can assume responsibility for some or all parts of the process.

When equipment is leased, asset recovery services typically become the responsibility of the lessor—an important advantage of leasing. Asset recovery can include management of all IT equipment, not just what is obtained from a specific vendor.

In any information technology program, proper handling of surplus IT assets is critically important. Asset recovery outsourcing and equipment leasing programs are strategic approaches that can reduce risk and free the enterprise to focus on its core business.

The challenge of the IT lifecycle

Streams of new personal computers, routers, servers, monitors and countless other devices pouring out of factories are matched by vast amounts of older gear piling up in storage rooms and company warehouses. This is the core of the end-of-use dilemma.

According to CNET News.com, almost 209 million personal computers were shipped in 2005, with a 10 percent increase predicted for 2006.[1] The United Nations estimates that up to 50 million metric tons of electronic waste or "e-waste" are generated worldwide every year, representing more than 5 percent of all municipal solid waste.

In a 2005 report to Congress, the U.S. Government Accountability Office (GAO) suggested that more than 100 million personal computers, monitors and televisions become obsolete each year.[2] Though some of this is sent to landfills or recycled, the GAO reported that policies in many jurisdictions prohibit disposal in landfills, and recycling is often costly and difficult. As a result, much surplus IT equipment is simply being stored.

So managers are not alone in wondering how to deal with this mountain of old equipment. While it may have no use in the enterprise, they know surplus equipment cannot be simply tossed out with the garbage. Mishandling surplus IT equipment can threaten data security, endanger the environment and jeopardize the residual value of the assets.

Data security risks
Computers, servers, cell phones, personal digital assistants and other intelligent devices are more than business tools; they're libraries filled with information about your enterprise, employees and customers. Both

common sense and force of law demand that you safeguard this data from criminals, competitors and the idly curious.

A 2005 survey by the Ponemon Institute, LLC, a Michigan-based privacy research organization, found that breaches of customer security (not necessarily stemming from surplus IT equipment) are both common and costly:

- Nearly 12 percent of consumers received a breach of security notification in the previous year
- Almost 20 percent of those customers immediately terminated their accounts, and 40 percent more were considering it
- Average recovery costs were $140 per lost customer—an average loss of $14 million per company

News about identity theft, coupled with a series of widely publicized database breaches and data disappearances involving major financial institutions and data brokers—and the U.S. government—has focused the concern of citizens and lawmakers. Multiple laws governing information privacy and security are now in effect.

These include the U.S. Health Insurance Portability and Accountability Act (HIPAA) governing privacy of medical records; the Gramm-Leach-Bliley Act, which requires financial institutions to protect customer information; and the Sarbanes-Oxley Act providing guidelines on corporate governance.

Similar laws exist outside the United States as well, such as the Canadian Personal Information Protection and Electronic Documents Act (PIPEDA), the European Union Directive on Privacy and Electronic Communications, and in Japan, Healthcare HPB 517 and the Bill to Protect Personal Data.

Just like IT equipment currently in use, "retired" disk drives and chips may contain customer account and personal information, proprietary intellectual property and embedded access credentials that could expose your enterprise to unauthorized entry, sabotage, identity theft and corporate espionage.

Secure disposition of retired equipment requires chain of custody and control as the hardware is inventoried, stored, shipped and evaluated for resale or disposition. Physical storage must be destroyed or thoroughly erased (wiped) to ensure information stays out of the wrong hands.

Environmental considerations

Computers contain valuable recyclable resources, such as gold, silver, palladium and platinum, as well as other useful metals like aluminum and copper. According to the GAO, the U.S. Geological Survey reports that 1 metric ton of computer scrap contains more gold than 17 tons of gold ore.[3] Recycling these resources can help shrink the waste stream, conserve natural resources and, at the same time, capture value for the enterprise.

In addition to these valuable materials, e-waste contains harmful elements, including lead, cadmium, mercury, chromium and halogen-based flame retardants. A typical computer monitor (cathode ray tube, or CRT) may contain more than 6 percent lead by weight.

Governments worldwide are stepping up environmental regulations. In 2005, member states of the European Union began implementing the WEEE Directive, which requires manufacturers to provide for recycling of electronic products and also requires households to use required drop-off points for their unwanted electronic devices. In 2006, the EU and Japan implemented Restrictions on Hazardous Substances (RoHS), a regulation that limits the amounts of hazardous substances manufacturers may use in technology. China will follow with similar regulations in early 2007.

In the U.S., many states have enacted or are considering legislation that would regulate disposal of electronics. Massachusetts, Minnesota, California and Maine now ban e-waste from landfills. In addition, some states have enacted recycling fees for electronic equipment.

Careless or irresponsible disposition of IT equipment can lead to litigation and threaten an organization's reputation. In June 2006, members of the international environmental group Greenpeace staged a protest at the Computex trade show in Taipei, focusing attention on e-waste concerns for show-goers and the world press.[4] Greenpeace ranks IT equipment manufacturers according to their environmental policies and maintains an "e-Waste Hall of Shame."

Loss of residual value

Once the decision is made to replace IT equipment, the race is on to redeploy it within the organization, or to refurbish and remarket it.

Few organizations are adequately staffed or trained to evaluate the condition and appraise the value of used equipment, refurbish and test it, and then take it to market. Surplus equipment may sometimes be marketed to employees, but that does not free the organization from responsibility for ensuring its quality and performance. Nor does this obviate security concerns.

Additional considerations
Other matters that are part of the disposition process:

- **Software licensing**—Software licenses generally extend only to the original purchaser, so software-controlled equipment must be stripped of its original software, then re-loaded with newly licensed operating systems and programs before reuse.
- **Tax implications**—Residual value harvested from surplus equipment may affect the amount of depreciation reported to taxing authorities. Resale and recycling income must be accounted for as revenue. These complications can be avoided if equipment is leased, rather than purchased.
- **Internal logistics, costs and competencies**—As noted previously, few organizations possess the in-house capabilities to inventory, store, secure, ship and process hundreds or thousands of surplus IT equipment items. Creating these skills requires hiring and training staff, developing processes, obtaining warehouse and processing facilities, and figuring out how to manage disposition of the equipment. For most enterprises, such an effort will not pay off.

Best practices in IT asset management and disposition

An effective asset management program should approach these issues in a comprehensive and strategic manner, and enable you to manage and optimize the physical, financial and contractual aspects of IT assets across their entire lifecycle. Key elements of a strategic approach include:

- **Asset tracking**—You will want to implement a systemic tracking solution that automatically discovers hardware, software and network assets located throughout the enterprise. Management must know what data is on which asset, and ensure a chain of custody is established from the time the asset is taken out of use throughout completion of the asset recovery and disposition process. Create documented, end-to-end controls and reporting to provide audit trails to address potential legal issues.
- **Asset optimization**—Prepare a total cost of ownership (TCO) analysis, incorporating service, maintenance and contractual components. That analysis should calculate rate of asset depreciation and residual value to determine the accounting and financial impact of servicing assets as well as disposition. To understand optimization issues completely, incorporate technology investment protection options including transition programs, technology refresh, leasing, add-ons and upgrades.
- **Asset retirement**—The asset management strategy is implemented through a company-wide plan, budget and procedures to manage end-of-use IT assets. Your plan should be sponsored and overseen by a company officer and serve as a single, company-wide asset recovery vehicle. It should not be established on the basis of organizational entities or departments. The plan determines the optimal time to retire IT assets and guides the disposition process that follows.
- **Data security and asset disposition**—Your asset recovery plan should ensure conformance with all legislated compliance practices and regulations governing data security and environmental practices. You and your vendor must ensure chain-of-custody control and establish documented processes to demonstrate regulatory compliance throughout the asset disposition process. Management must know how and where assets will be recycled, and verify that responsible processes will be used.

  Data destruction methods should match the sensitivity of the data that needs to be destroyed or protected. If the data destruction is software based, detail the wipe standard to be used, the number of times the drive is wiped and how erasure will be validated. If the process involves physical destruction of the memory medium, specify the process used and the means to validate the destruction. Your plan should also specify on-site practices to ensure that data is destroyed, locked, cleared or sanitized at the time the IT asset is decommissioned. If data will be erased after decommissioning, the asset must be tracked and securely stored until then.
- **Asset disposition outsourcing**—Given the intricacies of asset disposition and the need to preserve internal company resources for core functions, most organizations will wish to assign the job to a reputable vendor. You will want to establish a robust vendor qualification process and financial audit criteria. For most businesses, renewing IT equipment is not a one-time transaction, but an ongoing need. A long-term relationship with an experienced and responsible vendor will provide the continuity for smooth operations.

  When selecting a vendor, there's no substitute for "kicking the tires." Before entering into a contract, you should negotiate strong terms and conditions to protect the interests of your enterprise; then visit the disposition center to verify processes, procedures and security. For instance, verify that vendor-supplied transportation will use only reputable freight carriers. Require the vendor to use well-established data erasure software, provide data erasure validation and validate destruction for non-functional drives. If applicable, ensure that the vendor is equipped to eradicate data on enterprise storage technology.

A model for IT asset management

The forward-looking enterprise can view these difficulties as opportunity, and turn the end-of-use dilemma heels over horns. A well-managed asset recovery program will minimize or eliminate risks, while maximizing upside possibilities. The goal is to find the optimal combination:

- Returning maximum asset value to the organization
- Minimizing cost
- Minimizing risk
- Enhancing the reputation of the enterprise for responsible environmental stewardship and sound management

Two options are available for asset recovery and asset management: Do it yourself, or engage a professional asset recovery services provider.

The do-it-yourself option

Disposition of surplus IT equipment is an unavoidable outcome of the equipment refresh process, and must be closely coordinated with the implementation of new technology. Organizations with sufficient scale may be able to support such a specialized function internally. Yet the do-it-yourself option raises significant questions.

Is it worthwhile to develop the capability to manage the equipment disposition process? Or would these responsibilities distract attention from the core mission of the IT organization or the larger enterprise?

An IT organization's fundamental goal is to enhance the competitiveness of the enterprise. It does so by enabling employees to accomplish more; enhancing productivity and reducing capital and operating costs. Except in the area of cost, managing the disposition of IT equipment is unlikely to advance these objectives.

For midsize and smaller organizations the question becomes easier to answer, as they are unlikely to have an ongoing need to manage surplus IT assets that would justify handling the job in house. The preferred solution is likely to be outsourcing the work to an IT asset disposition specialist.

The outsourced solution for IT asset recovery services

With the stroke of a pen, outsourcing can provide you and your organization immediate access to a full range of specialized skills and resources. Your contractor should be able to handle logistics, data wiping, equipment refurbishment and resale, and environmentally responsible disposition of materials. A capable contractor should be able to manage **all** IT equipment, not just what is obtained from a specific vendor. When IT assets are leased, asset recovery services can be included in the lease arrangements. The process can be complex, and should be considered in depth.

- **Logistics management**—This includes creating and reporting a detailed inventory of surplus equipment, warehousing the equipment prior to disposition or re-deployment within the enterprise, transporting the equipment to a processing location, and providing security to protect the hardware and the data it contains throughout the process.
- **Data security, data destruction and certification**—Though it may surprise anyone who has experienced a disk drive failure, information stored on computer hard disks is remarkably durable. Simply reformatting the disk will not do the job; much of the data easily can be retrieved. Erasing a disk drive thoroughly—enough to ensure that stored data can never be retrieved—requires strict adherence to standards such as U.S. Department of Defense Standard 5220.22-M, which offers best practices for clearing or sanitizing media. It advises clearing magnetic disks by overwriting them three times—the first time with a character, the second time with its complement and the third time with a random character; degaussing (magnetically erasing the data); or physically destroying the disk.
- **Refurbishing and resale**—When IT equipment can be reused or refurbished and sold, your organization stands to gain. One alternative is to redeploy equipment within your organization. Another possibility: your equipment vendor may accept used equipment in part trade for replacement equipment, or offer a cash rebate. Another choice is to contribute the value of the surplus equipment to a nonprofit organization as a charitable donation. Regardless of who receives the value, the equipment must be tested and evaluated, refurbished, loaded with new software and marketed. Again, these are specialized skills that most enterprises will elect to outsource.
- **Environmental considerations**—Equipment not suitable for reuse or resale must be dismantled and recycled in accordance with applicable environmental standards. When the job is outsourced, the contract should clearly transfer responsibility for the equipment and recycling process to the contractor. In addition, the contract should specify how and where the equipment will be processed and what will be done with the recovered materials.

Relying on the principle "out of sight, out of mind" for protection can be a painful—and expensive—mistake, should the contractor shortcut environmentally responsible practices. "Sham recycling," in which recycled materials are deliberately or negligently misused by unscrupulous contractors, poses a growing problem. Plus, as global environmental awareness increases, the practice of shipping older IT equipment overseas to countries with less stringent environmental protection is coming under closer scrutiny. Enterprises attempting such practices face exposure, embarrassment and possibly litigation or sanctions.

Choosing an asset management partner

The end-of-use dilemma poses challenges you may not want to tackle alone.

With issues of legal, regulatory, environmental, security, economic and business importance riding on the outcome—not to mention your organization's reputation—choosing a contractor to manage the asset recovery process becomes a critical step. You will want to choose carefully, and select a vendor with a brand name and a reputation for trust and integrity—a partner who will share the risk. You should feel comfortable in explaining why you selected a particular partner. Indeed, if an incident occurs, you may **have** to explain your decision—to clients, to shareholders and possibly even to the courts.

Beyond reputation, your chosen vendor should be capable of servicing and managing your entire IT infrastructure, including products from all of your IT suppliers. Your partner should be able to report in detail on every single IT asset, and demonstrate robust processes for securing and destroying data on all sorts of media. For IT assets resold on the secondary market, your partner should be able to command the highest values. For assets to be recycled, your partner's risk mitigation and environmental protection practices should meet the highest standards.

Finally, the effectiveness of your asset recovery process will hinge largely on your relationship with the partner you select. Is the partner able and willing to integrate into your business processes to drive efficiencies and cost savings? Is the partner large and stable enough to count on over the long term? And is the partner capable of delivering the financial and business results that you expect?

HP Financial Services' capabilities

HP has helped customers manage the risk of dealing with surplus IT equipment for more than a decade. As part of HP Financial Services' leasing solution, the company delivers customized programs tailored to customers' specific needs in pricing, reporting, controls, transportation options, and on-site preparation and packaging.

As HP Financial Services deploys a technology solution, it will remove equipment that no longer meets a customer's needs—regardless of whether it's from HP or another manufacturer. At the end of the lease term, customers simply return the equipment to the company—no hassles, no concerns—and HP Financial Services manages disposition responsibly and in accordance with applicable environmental laws.

HP Financial Services processes and remarkets more than 1 million IT assets each year; process control and quality are built into the entire business structure. The company's programs are tailored to meet the strategic requirements of enterprises large and small. These requirements include:

Environmental considerations
HP Financial Services has its own disposition capabilities and maintains strict business and process controls. Product disposition is handled in accordance with applicable environmental regulations. Remarketed products are tested and sold as fit for use.

Data security
HP Financial Services offers flexible data erasure options compliant with DoD 5220.22-M recommendations for both PC and server technology, and validates that conditions specified by customers are met. Non-functional drives are physically destroyed and that process, too, is validated.

Financial advantage
HP Financial Services' asset recovery solutions are customized to meet each customer's needs and budget. By seamlessly integrating the asset recovery process into the business processes of its customers, HP Financial Services increases customers' efficiency and helps reduce their costs.

Rigorous business controls include confirmation of product disposition as well as financial settlement reports detailing the revenues obtained through resale and recycling.

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[1] "PC Market Surged in 2005, Will Settle in 2006," by Michael Kanellos, January 28, 2006, CNET News.com

[2] "Electronic Waste–Strengthening the Role of the Federal Government in Encouraging Recycling and Reuse," U.S. Government Accountability Office, November 2005, page 3.

[3] Ibid., page 2

[4] "Greenpeace Brings e-Waste Issue to Computex," by Martyn Williams, IDG News Service, June 7, 2006, InfoWorld.com

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