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Craig Hyatt
IT Director, Campus Services
University of North Carolina at Chapel Hill

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21st CENTURY CAMPUS REFERENCE GUIDE

IN THIS ISSUE:

CHAPTER 1: Asset Management Advantage..... 3
Read about how self-service portals and outsourced imaging services are streamlining IT asset management at the University of North Carolina.

CHAPTER 2: Riding the Cycle..... 13
Read about how technology lifecycle management yields numerous benefits, including cost savings, better security and easier IT management.

WHAT IS A CDW·G REFERENCE GUIDE?

At CDW·G, we're committed to getting you everything you need to make the right purchasing decisions — from products and services to information about the latest technology.

Our Reference Guides are designed to provide you with an in-depth look at topics that relate directly to the IT challenges you face. Consider them an extension of your account manager's knowledge and expertise.
We hope you find this guide to be a useful resource.

Craig Hyatt
IT Director, Campus Services
University of North Carolina at Chapel Hill

ASSET MANAGEMENT ADVANTAGE

Self-service portals and outsourced services streamline IT purchasing at the University of North Carolina at Chapel Hill.

In 2007, orders for computer hardware were vacuuming up time and piling up paperwork for both the University of North Carolina's Campus Services IT staff and its customers.

Whenever a request for equipment came in from any of the 12 campus divisions served by the department, Campus Services gathered quotes from a variety of vendors and then either ordered the product directly or passed on the best quote to the requester. When the shipment arrived, a member of the IT staff would then image each machine individually and perform initial testing before installing the hardware.

"Between the work on our end and the accounting for the customer, there was a lot of unproductive time spent," says Craig Hyatt, IT director for Campus Services on UNC's Chapel Hill campus. "We had to find another way to manage how we acquired those assets."

To remedy the situation, Hyatt and his staff got out of the business of ordering the most common types of IT assets. Campus Services IT partnered with CDW•G to create a web-based self-service model through which UNC departments could select and purchase their own desktops, notebooks, monitors and printers.

On average, the new system saves about four hours of time for IT support professionals for each PC purchased, and another two hours of time in the business office thanks to the reduction in paperwork processing, Hyatt says.

"The system is making life considerably easier for us and much easier for the customer — they don't have to wait on IT to order something," says Hyatt. "An administrative function like the basic ordering of commodity items isn't really an IT function, even though managing the acquired asset is."

The Building Blocks

Improving one process at a time is the idea at the heart of any successful asset management strategy, according to Fred Broussard, analyst for tech research firm IDC. IT asset management involves oversight over the lifecycle of any piece of hardware or software, from acquisition to disposal. But implementation is usually optimized by taking incremental steps, such as UNC's streamlined system for ordering IT assets.

"Once an organization starts on the path of IT asset management, all sorts of routes to saving money and time open up to them," says Broussard.

Several factors were key to the creation of the new hardware purchasing system at UNC. Ordering through CDW•G, which offers an array of equipment from various vendors, instead of going through several individual manufacturers eliminated time spent gathering quotes and decreased paperwork.

"There was a fair amount of overhead associated with creating purchase orders and sending them to the manufacturer, and the manufacturer had a longer lead time than CDW•G," says Hyatt.

Imaging Assistance

At the same time, Campus Services IT also standardized on a limited number of Hewlett-Packard models,

BEST PRACTICES FOR I.T. ASSET MANAGEMENT

IT asset management is a job that keeps growing as the definition of IT assets broadens to include all sorts of enterprise assets, including heating and cooling systems, says Fred Broussard, analyst for tech research firm IDC. He suggests some essential steps an organization can take to track IT assets and optimize their performance.

- Make a plan that outlines a broad asset management strategy and details how specific processes fit into the strategy.
- Consider what information is needed to manage the organization's IT assets and what information is needed from the technology tools to help in the effort.
- Start small with a project that can be implemented relatively quickly to build buy-in among users.
- Track assets in their context: their function in the organization and their relationship to other assets.
- Document everything that needs to be tracked in the asset management processes to ensure that compliance can be certified when that certification is needed.
- Build as much self-service and automation into the asset management as possible to streamline the process for users and for IT.
- Set policy and choose technologies that match the organization's current needs. Also consider the future and how well both policies and tools will scale.

narrowing the options available to customers when they ordered desktop and notebook computers, as well as monitors and printers, Hyatt says. That eased the way for Campus Services to contract for CDW•G's imaging services.

Instead of imaging each computer ordered by a user, the IT staff loaded and configured one computer for each device model and category of customer. CDW·G then performed the task for subsequent orders.

"[CDW•G] sends us a PC and we use that as the representative model. Then we develop an image or images. We frequently have an image for each department we serve," says Hyatt. "CDW•G then tests and duplicates them on customer devices."

As part of the imaging service, CDW•G technicians also boot up and do initial testing on each PC before it's shipped, a step that catches out-of-the box problems and keeps failure rates very low, says Hyatt.

For each of the UNC departments supported by Campus Services, CDW•G provides a custom web portal that displays the appropriately configured hardware models available to the specific user.

"The customer goes online through their portal and orders equipment — just like any other online shopping experience," says Hyatt. "It's very easy for even nontechnical customers. They don't have to worry about specifications and features. It's on the site, and all they have to do is click on it and add it to their shopping cart."

At the time the order is placed, CDW•G generates an e-mail notification, which goes through the university IT management ticketing system to Hyatt's group. Once the device is shipped directly to the user, another e-mail from CDW•G alerts the IT staff that they can arrange to install the hardware when it arrives.

About three months in advance of a vendor's general product release, CDW•G sends out demo models of new equipment to Campus Services IT so that updated hardware is available to UNC users as soon as it is rolled out.

Self-service Success

The self-service ordering process involves a minimum of hassles and almost no loss of time or productivity, says Tommy Gunter, accounting manager for the UNC Auxiliary Services Division, which receives its technology support from Campus Services IT.

"It's really been a seamless process for us," he says. "It's made things a lot easier for us — being able to order it online, seeing the product. There's no issue of having to receive an invoice, and the website is tied into the university accounting system, so the purchase is automatically charged to the right account."

The main adjustment for users in his division was learning to navigate the web portal, says Kehinde Olajide, IT program manager for Energy Services Project Management at UNC.

"It took some time for everyone to feel comfortable with the site, but after the learning curve has been climbed the system has worked well," he says.

The only complaints Olajide has heard from fellow users have been occasional gripes about the limited pool of hardware options. "That's to be expected. People have their favorite devices, and you can't make everyone happy," he says. "The choices we have are the ones that best meet the needs of the organizations and the university."

Expanding Self-service

User feedback on the first phase of the revamped purchasing process was so positive that servers and storage devices were added to the system in 2009, says Hyatt. Campus Services IT also works with customers to help them fill the needs of specific projects through the self-service portal. The IT staff develops a technology configuration to support the project and the hardware components are then available through the portal.

In many cases, users can meet their needs with one of the standardized server options. If a project requires customization, Hyatt's group gets a quote from CDW•G for the modification and forwards it to the requester, who can place the order through a "quote-to-order" function on the web portal.

"When a department needs to do a project, they come to us and we give them a configuration," says Hyatt. "We tell them that they're going to need 'this server and this storage' to do the project successfully. Then they can order that equipment from the site."

Late last year, the IT staff consolidated down to a single standardized image. Campus Services is now exploring the possibility of shifting the creation and maintenance of the images to CDW•G. That move could save as much as 40 hours of staff time per image, even though Campus Services IT would still add custom applications to a few users' desktops, Hyatt says.

"That's the kind of calculus we have to do continually in order to manage our assets to the best advantage and to keep total cost as low as possible," he says.

In the past, Campus Services IT had tried to maintain a three- to four-year refresh cycle for hardware, but that interval has been stretched to five or six years for desktops in recent times. Lifecycle management means maximizing the life of any asset while trying to balance between funds available for replacement and how the aging technology is performing, says Hyatt.

"We're not seeing a lot of failures, but as applications and features grow, the older machines aren't as productive," he adds. "We're attuned to the productivity impact on the customers and make recommendations for each area. At some point you have to say, 'We've done everything we can.' "

Process Improvements

Directing customers to a self-service portal to purchase a replacement product is an important step to efficiently managing IT assets, says IDC's Broussard.

IT asset management is a gigantic task (and growing larger all the time with new technologies and the computerization of all types of equipment and systems) that requires increasing amounts of time from IT professionals. Supporting this heavier management load requires finding processes that can be automated and relinquished to the user.

"Automate and standardize basic functions, like purchasing, imaging and setting up e-mail accounts, to offload some of the workload of the IT department," says Broussard. "Developing more functionality for users is what IT has been doing for decades."

IT asset management in general and self-service initiatives in particular demand buy-in from users and the IT staff that has to be nurtured by education and continuing support, says Broussard.

At universities similar to UNC with decentralized structures, changing a process such as asset acquisition can be particularly challenging. It's important to demonstrate that the IT staff is managing the users' assets and budgets to maximum advantage. The biggest obstacles to the shift to self-service purchasing at UNC were cultural ones that were overcome by walking a few customers through the system at a time and building buy-in momentum, says Hyatt. ■

RIDING THE CYCLE

Technology lifecycle management yields numerous benefits, including cost savings, better security and easier IT management.

In higher education, managing thousands or even tens of thousands of desktop and notebook computers is fraught with difficulty. Administrators, staff, faculty and students have different computing and software needs, which can quickly lead to an unwieldy number of hardware and software configurations.

The computers, often located in buildings and computer labs across sprawling campuses, need regular software updates and patches and occasional help desk support. And as PCs age and wear down, the IT staff needs to know when to retire and replace them with new ones.

To manage PCs effectively and efficiently, IT departments must deploy best practices and software tools that help manage or automate key steps in the lifecycle management process. This list of management optimizers includes hardware and software standardization, inventory tracking, software distribution and patching, help desk support, user training, and computer disposal.

If done right, IT departments can reap huge benefits: easier maintenance and reduced help desk calls, improved security, software licensing compliance, and lower total cost of ownership (TCO).

"The most significant factor in determining TCO is how well-managed PCs are and how IT can automate changes and support for users," says Terrence Cosgrove, principal research analyst for tech research firm Gartner. "It's about keeping costs under control and providing users with well-performing, stable PCs that allow them to be productive."

Automated Software Tools

The PC lifecycle management software market has matured over the past decade as software vendors have added more features and merged product categories to give IT departments a broader suite of software tools to manage and automate the lifecycle process.

Today, the suite of integrated tools includes asset management software, software distribution and patch management software, help desk software that includes the ability to remotely troubleshoot PCs, and power management software that puts PCs into hibernation or sleep mode when they are not in use, Cosgrove says.

Some vendors also provide data backup software and endpoint security, such as antivirus and data loss prevention technology. And some are adding support for mobile devices such as smartphones and tablets, support for operating systems beyond Windows, and support for alternative software delivery models such as application virtualization.

"At one point, tools such as asset management and software distribution were discrete products. Those days are long gone as vendors try to show their value with products that support more functions," Cosgrove says.

Despite the suite of products, however, many colleges still deploy multiple software tools to manage their lifecycle — and they do it successfully. Salisbury University in Maryland, for example, uses different vendors for asset management, software patching and help desk support.

GOING GREEN

Most desktop PCs and notebooks today are Energy Star–rated and have power settings to go into hibernation mode or standby mode. But not every user takes advantage of those power settings, keeping their computers on when they leave the office.

Administrators should use power management tools to remotely power down PCs at night and on weekends, says Terrence Cosgrove, principal research analystfor tech research firm Gartner.

Computers that stay on 24x7 for a year cost $75 annually in energy use. If the computers are turned off on nights and weekends, the annual energy cost would drop to $18 a year.

Separating PC and monitor purchases can also save money and the environment, says Darin Stahl, lead research analyst at Info-Tech Research Group. A good-quality LCD monitor can span two PC refresh cycles, he says. "It's good to decouple those sorts of things. It reduces costs and the impact on the environment, too."

Lifecycle Management Process

Asset management is the starting point and a key component of lifecycle management because it keeps a detailed inventory of deployed PCs and software and provides IT administrators a comprehensive view of assets, important data for effectively managing and supporting PCs and for controling spending, says Steve Brasen, research director of Enterprise Management Associates (EMA).

Asset management software allows higher education to keep track of each PC's make and model, and specific configurations, such as processor, memory, hard drive space, operating system and software. This software can also keep track of who the computers are assigned to or which labs they are located in, warranty information, and printers and peripherals connection information.

Automated software tools can scan the network, discover all of the hardware and software assets and store the information in a central database. But it is also important to manually go desk to desk to catalog computers, says F. Chad Shepherd, CIO for the St. Louis College of Pharmacy. The college IT staff performs a manual inventory once a year to validate data from the automated tool, but also to check on the physical condition of the equipment, which the automated tool cannot do.

"You can't completely rely on the automated tools because they don't report if something is broken," Shepherd says.

With inventory tracked, IT departments can determine which computers need software updates and patches, and a software distribution tool can automatically install them. The software distribution tool can also install full operating systems and software, which saves IT staff time when deploying new computers.

For example, the St. Louis College of Pharmacy purchases 450 new tablet notebook computers a year for faculty, staff and students. With a software delivery tool, the college can automatically upload the operating system and disk image. "We just plug them to a network cable and do a mass upload all at once," Shepherd says.

Help desk support tools are integrated with asset management software, so when users call in with problems, technicians can create a ticket and call up the users' PC details and help desk service history on their screens. And with remote management tools, they can remotely access computers to troubleshoot.

Moreover, college IT leaders can query the asset management database and produce detailed reports on which PCs are ready for retirement, so the IT department can plan the next refresh cycle. This data can also be used to produce reports on software usage.

If a specific application is rarely used, the IT staff can save money by reducing the number of licenses. "You can create a policy that if an application is not launched for three months, you remove that application, reclaim that license, and give it to someone else who might use it," Gartner's Cosgrove says.

Lifecycle management software can also check for compliance on security settings and software licenses. For example, the tool can scan each PC and identify software license keys to ensure each user has valid licenses for their software, Brasen says. "It ensures no piracy is happening."

Hardware and Software Configurations

Automated software tools are important, but so are best practices that streamline and improve PC management. To use the software distribution tool most effectively, for example, IT departments should group users into different categories based on their hardware and software configuration needs or the departments they work in.

That allows IT departments to more easily manage and more quickly provision software because the IT staff is administering groups, not individual users, Brasen says.

The goal is to standardize on hardware and software configurations as much as possible, simplifying PC management, reducing IT and help desk costs, and freeing up IT staff time.

PC lifecycle management is one of the oldest practices in enterprise IT. While most organizations do it, many don't do it very effectively, Cosgrove says.

One reason is that it's hard to maintain standard computer configurations when users have different or unique needs.

"Manageability is one of the hardest things to do. The more desktop configurations you have, the less you are able to manage them," says Cosgrove, who sees organizations getting less efficient with PC management. "It's the age-old struggle: user control versus IT control. And IT departments have to find the balance."

EMA's Brasen agrees. Strict standardization can strangle an organization. But at the same time, the more standardization there is, the easier it is and the less time it takes to manage your assets — and the cheaper it becomes, he says. For example, it doesn't make sense if users are working with office productivity software from two different vendors. Choose one, which allows bulk purchasing and lowers software license costs, he says.

IT administrators can standardize and configure standard images when purchasing and deploying new PCs, and they can save time by having their vendor install the images on the new PCs, says Darin Stahl, lead research analyst at Info-Tech Research Group. Resellers can also perform asset tagging by placing a barcode on each PC to help with asset management.

Stahl says it's ideal for IT organizations to have no more than three standard images. IT managers have to rigorously test and patch images to make sure they are stable. And the more images you have, the more time-consuming the task becomes, he says.

Another best practice is to reimage PCs regularly. When a reimage is done, it resets the machine's operating system so it performs at an optimal level. It wipes out virus and malware infections and other problems. Stahl says one IT organization he consults with reimages once a quarter and that has reduced help desk calls by 35 percent.

User Training and Extended Warranties

Training end users on the use of computers and applications is part of lifecycle management. End users generally know how to operate computers. But if the operating system or applications are changed, it's a good idea to retrain users, Cosgrove says.

"It will keep them productive and reduce help desk calls," he adds. "You don't want 1,000 calls on the same thing, so it's important to get users acclimated on whatever new desktop environment you have."

Analysts and university CIOs recommend purchasing extended warranties that cover PCs when the original manufacturer's warranty expires. PC makers typically offer one-year warranties for new desktops and notebooks. They also offer three-year or longer extended warranties that cover the costs for parts and labor and provide onsite or mail-in repairs. The coverage typically protects computers from accidental damage, such as drops and spills.

Salisbury University CIO Jerome Waldron purchases a three-year warranty up front when he purchases new PCs because it protects his investment. "A three-year warranty on a device is routine. It gives us some insurance that we're not getting a bad lot," he says.

Asset Disposal

Notebook computers typically last three years, while desktop computers can last from four to six years, Stahl says. Disposing of retired computers is part of the PC lifecycle and IT departments need to budget for PC disposal, which includes wiping hard drives and recycling equipment to comply with electronic recycling laws.

Colleges can negotiate deals with their PC makers to recycle the computers for them or they can hire a recycling service. They can also donate the equipment or prolong the life of the equipment by giving it to users with lower computing requirements.

A best practice during asset disposal is to scrub hard drives seven times to ensure all the data is deleted, Brasen says. In addition, don't forget to reclaim the software licenses on those end-of-life computers so they can be used on other computers, he adds.

Overall, the key to a good PC lifecycle management strategy is automated software tools and implementing processes that simplify and streamline the management process. In fact, St. Louis College of Pharmacy's IT department spends 63 percent less on each PC since it started its standardization and lifecycle management initiatives in 2003.

"In tough economic times, doing things more effectively and efficiently and standardizing is gaining great popularity. Investing in some automated tools allows you to do that. It is money well spent," Shepherd says. ■

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