

TAKE THE PAIN OUT OF PRINTING

Managed print services reduce costs and uncover efficiencies in this scarcely managed area of IT.

Executive Summary

Printers, scanners and fax machines have long flown under the radar of even the most cost-conscious managers. For many organizations, there are just too many other technology requirements clamoring for attention.

The irony is that while data centers may be ticking away with the efficiency of a Swiss watch, the inconspicuous printing environment continues to run with very little managerial oversight. As many enterprises are finally realizing, that's no longer an option in a time when "do more with less" is the IT mantra.

Fortunately, there's a viable alternative: managed print services (MPS). In this outsourcing strategy, a service provider takes control of all or part of an organization's printing and imaging environment to control costs, reduce the overall hardware footprint and perform a variety of other essential duties, all while relieving the internal IT staff of many secondary responsibilities.

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Hidden Costs

The problem with printing equipment is that, in most organizations, it's hiding in plain sight. Printers are hidden from IT managers who work tirelessly to consolidate the print-server count to optimum levels, but can't readily say how many printers are operating throughout the enterprise.

They're hidden from budget hawks in the finance department who've squeezed out every excess cost from the capital and operational expense budgets, but can't come up with a single number to describe what the organization spends each year on toner and ink. (Here's a clue: According to the tech analyst firm Gartner, companies spend from 1 to 3 percent of their total annual revenues on printing.) Printers also are hidden from facilities managers who may be at a loss to provide a number for annual electricity costs devoted to printing devices.

The Price of Printers

- 1-to-3%:** The portion of their annual revenue that corporations are spending on printing
- 40%:** The percentage of IT and help desk calls that are printer related
- 4-to-1:** The ratio of printers to employees in the average office – the optimum ratio is 10-to-1

Source: Gartner

In short, most organizations don't have an accurate picture of their print environment. As a result, they're paying much more than they should.

And it's not just printing and printers that organizations can't get a handle on. It's imaging in general, including fax machines, scanners, copiers and all-in-one multifunction devices that combine some or all imaging capabilities in a single box.

The diversity of imaging hardware exacerbates the management problem. The costs for each of these special-purpose devices go similarly unreported on most balance sheets, out of sight of managers who are otherwise ready and willing to reduce all associated imaging costs.

And as anyone who uses a printer or related device knows, costs refer to more than just the price of the hardware. Take, for example, a printer's consumables – the paper, toner and ink cartridges that keep them running.

There are hard costs associated with replacing these items, but soft costs can also add up quickly. These include the downtime that users endure when a printer runs out of supplies, the time required to load paper or swap cartridges, and the hours spent ordering consumables or dashing off to an office supply store. Add to that the time and resources for routine maintenance and it's clear that soft costs are significant – and hard to grasp.

Why is the imaging environment so hard to quantify? For many organizations, the answer is that no single person or department takes responsibility for every component.

For example, IT may buy network printers or all-in-one devices, while business managers may authorize the purchase of desktop printers, fax machines and scanners. The same goes for consumables – each business unit may purchase toner, ink and paper separately, as needed, using their own operating budgets.

Not only is no one tracking enterprisewide costs, but also the organization is missing opportunities to negotiate volume discounts for equipment and supplies. And because no central authority oversees the imaging environment, many organizations suffer from device overload, meaning they end up with more devices – which consume supplies, electricity and support resources – than they need to support business operations.

Financial pain isn't the only consequence of imaging-device overload. An unmanaged print environment can expose enterprises to unnecessary security risks when no one is in charge of applying security policies to imaging equipment.

Consider that even if an organization implements strict controls to limit access to financial records, data breaches can occur if a document sits unattended in a printer's output tray, waiting for the authorized employee to retrieve it. Breaches can also occur if a printer's scan-to-e-mail functionality isn't controlled – what was once a secure file can quickly travel to an unintended, Internet-connected destination.

Print Components and Managed Print Services Functions



Viable Alternative

Fortunately, printers don't have to be pain points. In the past two years, increasing numbers of organizations have made the move to managed print services, a strategy that can help bring centralized control to all or a portion of the print and imaging

environment without adding new responsibilities to an already burdened staff.

In fact, in 2011, the North American market for MPS hit about \$17.5 billion – 20 percent more than in 2010 – according to research firm Photizo Group. Overall, Photizo Group expects compound annual growth to average approximately 20 percent for the five years, beginning in 2010.

Some observers say that the economic hardship of the past few years may have spurred MPS. Now, more than ever, managers may be looking for solutions to cut costs and consolidate IT infrastructures.

Recent research by InformationWeek bolsters this view. In a survey, the publication asked IT decision-makers to rate the importance of a dozen evaluation factors related to MPS. More than 70 percent named a reduction in overall print costs as "very important."

Top 10 Benefits of Managed Print Services

1. Cuts printing costs by 10 to 30 percent
2. Reduces hardware requirements
3. Frees up IT resources
4. Regulates expenditures
5. Streamlines print processes
6. Improves printer uptime and availability
7. Enhances information security
8. Supports green initiatives
9. Reduces paper consumption
10. Creates a foundation for efficient digital-document systems

The Due Diligence Payoff

Another significant appeal of managed print services is that service providers take on a range of duties to optimize and maintain the printing and imaging infrastructure. This can include equipment upkeep and consumables replacement.

And because organizations pay a predictable fee for these services, budget planners not only know exactly how much they're spending for printing and imaging, they also don't face the unexpected surprise of a device that suddenly needs repair. Those costs can fall within the managed print contract.

Such benefits help explain why the market for MPS is on the upswing. But like all trends, potential benefits must be weighed against possible pitfalls.

For starters, a hot market like MPS often attracts an influx of providers, some of whom may be inexperienced and unable

The Paperless Office? Not Yet

Providers of managed print services (MPS) help organizations cut printing costs and address environmental initiatives in part by showing them how to reduce paper consumption. That's a welcome benefit, considering how elusive the long-awaited paperless office remains today.

To illustrate, the U.S. Environmental Protection Agency estimates that the average office worker churns through 27 pounds of paper per year. And while Americans recycled nearly 63 percent of the paper they used in 2010, paper still makes up 29 percent of municipal solid waste – more than any other material that Americans throw away, the agency says.

But there's good reason to promote paper conservation. Recycling one ton of paper:

- Saves enough energy to power the average U.S. home for six months
- Conserves 7,000 gallons of water
- Frees up 3.3 cubic yards of landfill space
- Reduces greenhouse gas emissions by one metric ton of carbon equivalent (MTCE)

to help realize expected returns. Moreover, because service offerings vary from one provider to the next, customers need to clearly identify their business goals.

If they choose the wrong company to partner with, cost controls and service levels may be disappointing. The ripple effect of such missteps will likely grow because managed print contracts typically last for three to five years.

Still, with the right strategy and some upfront research, organizations exploring MPS can avoid problems and reap the rewards of an economical printing environment. Along with cost savings, this can include a more efficient work flow operation, lower energy consumption, enhanced security and simplified document capture and distribution.

A Closer Look

The enterprise often approaches managed print services as a form of outsourcing. This is much like the managed services they may rely on to keep servers maintained – or, for that matter, the processes associated with migrating to a software as a service infrastructure in order to access a number of apps.

And as with server maintenance or cloud computing, MPS can vary between providers. Therefore, IT shops should understand the range of options from the very beginning of their search.

Each alternative offers a different level of support to manage printers and multifunction devices in a unified manner. Here are three broad classifications of MPS:

- **Basic managed print services.** Typically, basic services are a first step and include automated supplies replenishment and print management for a single workgroup or small department. Such small-scale services can serve as a pilot program for a broader managed print implementation.
- **Infrastructure optimization.** This scenario introduces device consolidation, automated supplies replenishment, support services and ongoing performance analysis to a larger cross-section of the enterprise.
- **Full-fleet management.** This high-end variation covers the entire printing and imaging infrastructure and may also incorporate electronic document management as part of the consolidated solution.

There are a number of motivations for moving to managed print services, but the overriding factors are cost savings and the opportunity to offload scalable degrees of print management duties so that internal staff can focus on tasks that more directly serve the enterprise's goals.

Detailed fleet reporting and predictable monthly expenses are also important, especially for those who live by the adage, "You can't manage what you can't measure." When printer costs are undocumented, organizations can't easily eliminate waste or spot redundancies that result in unnecessary costs.

Two pricing models are prevalent in the MPS marketplace today: 1. Pay-per-cartridge 2. Cost-per-page (or Pay-per-click). For managed print contracts based on cost-per-page or pay-per-click pricing models, upfront work is required to determine contract pricing – which is typically based on four key estimates made by the service provider. These include:

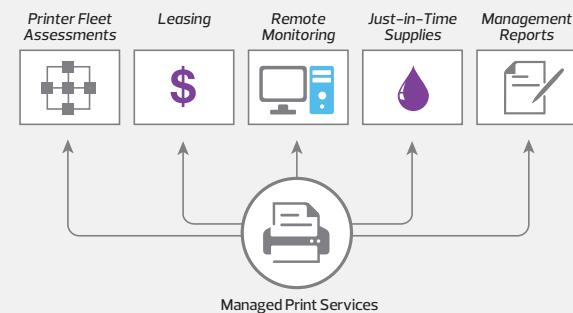
- **Volume:** The average number of pages that will be printed in a year. This amount may comprise estimates for individual departments, as some business units, such as marketing or shipping, create many documents while others, such as IT, do not.
- **Page coverage:** How much ink or toner will likely be used to print each department's documents, from dense, illustrated reports to less complicated forms.
- **Color versus monochrome:** Color consumables cost significantly more than their monochrome counterparts; the difference in the organization's use of each is factored into the price quote.
- **Service levels:** Printer break/fix services may be included in the per-page rate. Pricing depends on the level of service (i.e. same day or next business day) requested.

The best service providers then build on their initial assessment to come up with more than just a per-page or per-click estimate for the managed print contract. They also provide an optimization plan. For example, large numbers of stand-alone desktop printers can be costly if they sit idle much of the time while still drawing power.

Organizations can improve on those ratios even more by transitioning from stand-alone hardware to workgroup printers and multifunction devices that connect to the LAN. A reputable managed print provider can use the assessment information to adjust ratios, reduce the number of stand-alone fax machines and scanners, and determine the best number and placement of shared devices to avoid forcing users into queues.

The good news is that previously expensive, high-performance multifunction devices have come down steadily in price, with many workgroup-class models selling below \$700. Prices are even more attractive when you consider that the duty cycles of these units are high enough to serve entire workgroups, resulting in an overall reduction of the hardware footprint and cost of consumables.

An example of a managed print services solution.



Printer Refresh

The optimization plan should also determine what legacy equipment must be refreshed with faster page-per-minute models that boost productivity by eliminating the time that staff wait for large print jobs to finish. Although some equipment replacement may be necessary, be wary of a managed services provider that recommends a costly rip-and-replace solution, which would take out everything and replace it all.

Instead, the print services consultant may be able to suggest how an existing – but reliable – printer that's targeted for replacement can still deliver good performance to, say, a finance manager who needs a dedicated device for privacy and security reasons. That translates to one printer upgrade but two user groups served.

To ensure that the print environment runs optimally over time, contracts should include quarterly reviews based on ongoing usage data collected by the service provider. This enables both the provider and customer to spot and correct any problems, such as unexpected bottlenecks.

And because sustained uptime is a significant productivity benefit of MPS, providers should describe how they can offer proactive maintenance of the printing and imaging

fleet. This reduces the chance that a printer will break down unexpectedly, stalling productivity and forcing users to find alternative output devices.

The proactive approach is especially important in organizations where stand-alone devices are the norm. Obviously, files can't be redirected to working units as easily as they can in environments where hardware is connected over a LAN.

Security Concerns Shadow Printers

Security risks are a clear and present danger in print environments, especially when enterprises don't take full advantage of industry best practices and the latest controls.

A new survey released by Xerox and security solutions provider McAfee found that a significant share of employees – 39 percent – worry about the security of confidential data that they print, scan or copy using networked devices. This is significant because 51 percent of those surveyed said they use printers, multifunction devices and copiers for confidential information.

Researchers also found that organizations sometimes neglect to enforce even the most basic measures for mitigating printer-related risks, such as making sure employees are well versed in security policies. In fact, 21 percent of respondents said they didn't know their organization's security policies, while 54 percent said they didn't always comply with the policies.

The study also found that in many cases, common security tools were not implemented. For example, only 13 percent in the survey said their organization's printers and multifunction products prompted them for passwords or passcodes before completing a print job.

To keep tabs on service agreements and ensure they're being met, organizations and service providers use specialized software tools to monitor the print environment. Service providers use printer fleet management software to analyze and plan for a managed print contract.

The software profiles each networked device in the environment to determine age, output volumes and utilization rates. It accomplishes this by sending software agents across the internal network to identify printing and imaging hardware and gather data.

After the device discovery process, an organization and its service provider employ additional solutions. Print management software works over time to track print volumes and log the types of jobs that the organization typically produces.

For example, it might determine what percentage is monochrome and what percentage is color. In addition, device management programs authenticate users to ensure each is

cleared to use a particular unit. Depending on internal policies, users may have to enter a password or swipe an identification badge before a print job is released to the output tray.

In addition, each device in the enterprise may run its own specialized applications. One example is routing software that sends scanned documents to various destinations, including fax servers, network folders, e-mail addresses or workflow systems. These applications can help distribute information without the expense of creating hard-copy documents.

Charting the Benefits

With the right service provider and managed print program in place, an enterprise is on track to see quantifiable returns on its investment, both in the short term and over the life of the contract. If the organization isn't realizing these benefits, it should reexamine its MPS solution.

Lower costs: First, managed print services should deliver significant cost savings, particularly for organizations in which business processes are paper-intensive. For example, the analyst firm InfoTrends estimates that law offices often cut printing costs by about 41 percent through MPS. Companies in the financial services industry see average savings of 33 percent, while healthcare organizations typically cut costs by about 27 percent.

In fact, industry research shows that cost savings and efficiency gains should materialize across a wide range of

Multifunction Printer Benefits

Because they are capable of printing, scanning, faxing and copying, MFPs can produce huge savings and offer significant advantages in a number of critical areas. The benefits of this approach include:

- Cutting costs by only supporting one device instead of two, three or four
- Trimming total cost of ownership (TCO), storage requirements and the number of service interruptions by managing fewer consumables
- Gaining 20-to-40 percent cost savings on consumables compared with the combined cost of individual-function products
- Using 40-to-50 percent less floor space than a similar selection of individual-function products
- Boosting productivity and workflow by allowing for multitasking and locating more capabilities closer to users
- Saving power by having one device do the work of four
- Enjoying faster speed and flexibility as MFPs typically operate faster than laser printers or other types of printers

markets, in organizations small and large, as well as in the public sector.

Photizo Group estimates that the average cost of a printing and imaging fleet is \$700,000 per year for a firm with 750 employees. By reducing the overall number of devices, organizations can cut costs quickly.

For example, the city of Aurora, Colo., used a managed print services provider to help shrink a legacy fleet of 1,200 printers and copiers, which were primarily stand-alone devices, to only 300 multifunction devices. The savings: nearly \$250,000 per year, according to the city's IT client services manager.

Aurora also determined that the IT staff is now able to devote more time to the systems and applications that directly support city services and administration, rather than repairing and maintaining printers. Before managed print services, 30 to 35 percent of tech support calls involved the print environment.

Saving on supplies: Another benefit of implementing MPS is the ability to manage what may previously have been a haphazard practice of purchasing and inventorying supplies. In unmanaged print environments, the levels of consumables must be monitored and replenished when necessary.

Rarely is this a formal process, and as a result, printers often run out of ink or end up with empty paper trays. This break/fix approach to consumables typically results in downtime, leaving workers in limbo until the output devices are back on line.

Unmanaged consumables lead to other problems. If the right supplies aren't on hand, someone must dash to an office supplies store or place an Internet order for replacement items. And if the job isn't one person's responsibility, there's a chance multiple people will act, leaving the organization overstocked with supplies.

These excess consumables may in fact never be used – some will undoubtedly be shoved to the back of a storage closet to become what experts call "trapped inventory." Even if all the organization's ink and toner are eventually used, a series of one-off purchases means missed opportunities to save money through volume discounts.

A coordinated approach to printer management can also lead to usage policies that will cut the enterprise's overall demand for ink, toner and paper. For example, administrators can set defaults on printers and multifunction devices to two-sided duplex printing, which immediately cuts paper consumption in half while helping to save time, space and shrink the carbon footprint. Other options include limiting color printing to authorized individuals or departments to keep the use of costly consumables to a minimum.

One of the returns food giant General Mills is seeing from MPS is a stunning reduction in the amount of paper it uses each year. Duplex printing, which accounts for about 61 percent of the organization's print jobs, plus a greater reliance on digital documents, have helped General Mills reduce paper use by approximately 10 million pages each year.

Energy conservation: Attention to energy consumption is high on IT optimization lists for a number of reasons. For starters, cutting electricity use and carbon emissions should be part of any corporate responsibility initiative, especially as more organizations view "green" strategies as a civic duty.

But there's more to an eco-friendly plan than environmental awareness. Such practices can also boost the bottom line when energy costs are rising and utility companies are imposing premium pricing for peak-hour usage.

MPS offers a two-pronged attack on high electricity costs. First, the assessments conducted by a service provider can identify high device-to-user ratios and overreliance on stand-alone devices. By consolidating the hardware with networked printers and all-in-one devices, organizations can significantly reduce the energy draw necessary to fuel the print and imaging environment.

A print environment for an organization of 750 employees typically requires 3,700 hours of IT support, uses more than 33,000 kilowatt hours of electricity and generates 85.73 tons of carbon emissions.

Source: Photizo Group

Second, a coordinated managed services effort can identify an organization's old, inefficient equipment and help determine the power- and money-saving potential of upgrading to more modern hardware.

These measures can add up to significant savings. Hewlett-Packard estimates that the average Fortune 1000 Company can save up to 40 percent on its printing-related energy costs with the right managed print contract.

Along with energy savings, a managed print strategy can generate some subtler improvements, as in the case where organizations have multiple leasing contracts for copiers. When agreements come up for renewal, IT decision makers can choose instead to bring a networked multifunction device into the managed print agreement, which reduces both the hardware device count and the number of contracts in force.

In some cases, these legacy copier contracts come with stringent terms that penalize the enterprise for volume overruns or other "gotchas," such as charges for a full-color page when a document includes only a URL highlighted in blue.

Plugging Security Gaps

Networked printers and multifunction devices may be more efficient than stand-alone units. However, there's a trade-off organizations must be wary of: These devices have the potential to increase security risks.

For example, a document with sensitive information may be left in a networked printer's output tray, or an unauthorized employee may use a device's scan-to-e-mail capabilities to distribute documents to unsafe destinations. Fear of these risks is at the forefront of a new survey released by Xerox and security-solutions vendor McAfee (see *Security Concerns Shadow Printers*) that indicates a need to be more vigilant.

Reducing printer-related risks is often just a matter of deploying common tools that come with most networked

Service Providers: What to Look For

MPS providers deliver expertise as well as ongoing management, so organizations need to evaluate potential partners carefully to find the right match.

- Because most printing and imaging environments include a diverse mix of brands, look for a service provider that doesn't have a bias toward a particular manufacturer but instead has experience with a variety of vendors.
- Get a proposal from more than one company. Each provider may analyze the existing print environment differently and see unique opportunities for optimization.
- Ask for examples of reports that the service provider has created for other organizations. See if they incorporate audit numbers, and flag opportunities for decommissioning and consolidating equipment.
- Be wary of optimization plans that look more like rip-and-replace proposals. To some degree, upgrading to new, more efficient equipment will be necessary, but the plan should also be designed to incorporate the useful life of existing investments.
- Seek providers that are willing to tailor their contracts to specific organizations or industry segments.
- Figure out what else the provider knows. Look for a partner that employs a staff of experienced technicians with up-to-date certifications and expertise in related areas, such as information security.
- Evaluate the potential partner's financial stability and get references to make sure it has a proven track record in print services.
- Test providers' willingness to be held accountable on an ongoing basis by agreeing to quarterly performance reviews.

printers and all-in-one devices. But security controls frequently go unused simply because no one acts as the main administrator of the environment.

IT chiefs can address such oversight by including security in their managed service contracts. Many providers also offer broad security expertise to advise on policy, best practices and controls. Security enhancements to the print environment include:

- **Data encryption:** Security software that renders documents unreadable when they're sent to networked printers and all-in-ones, or when they're stored on those devices' hard drives. Authorized users with the proper codes unscramble the underlying data and make the documents readable again prior to running the print job.
- **"Pull" printing:** When a staff member sends a job to a networked device, there's a risk that confidential information may be in full view in an output tray before it's claimed. Pull printing withholding printing of the document until an authorized person enters a security code or scans a badge at the device's location.
- **Security policies:** Modern multifunction devices come with a number of conveniences that promote communication while reducing the need to produce hard-copy output. But scan-to-e-mail and faxing can make it difficult to keep data confidential among authorized workgroups or enterprises. Managed print service providers can help organizations impose the right controls to balance security and convenience by utilizing various data loss prevention strategies.
- **Audit software:** As part of the managed print contract, service providers routinely create usage reports highlighting page volumes and other key indicators. The reports can be expanded to show who used each networked device and where print jobs originated in order to create audit trails for security-sensitive areas.

When MPS providers help optimize the imaging environment, a trend often develops: The need to print hard copies of documents declines significantly. The reason is that digital documents eliminate much of the pain associated with paper files, which are hard to manage and can be easily lost or misfiled. They're also more difficult to share than digital content, which can move through electronic workflow systems for approval, distribution, filing and archiving.

To achieve this type of business process optimization, enterprises need to bring discipline to their disjointed printing and imaging environments, which are largely dominated by stand-alone hardware and lack a central authority to optimize, manage and secure the infrastructure. In short, printers and imaging devices can no longer hide in plain sight. And one of the most important steps toward full visibility is managed print services.

CDW: A Managed Print Services Partner that Gets IT

CDW offers a variety of customizable managed print services. Working with leading MPS partners including HP, Lexmark, Ricoh, West Point Products and Xerox, each program includes:

- A no-charge remote printer fleet audit
 - Just-in-time supplies replenishment
 - Ongoing printer fleet monitoring and reporting
 - Regular periodic account reviews to discuss printer usage patterns
 - Preferred pricing on hardware along with leasing options for new equipment
 - The ability to add or remove printers as your needs change
- CDW's flexible approach to supplies replenishment pricing allows customization to meet specific goals. Two distinct supplies pricing models are offered:
- **Pay-per-cartridge:** allows the purchase of printer supplies as you need them on a cost-plus discounted pricing structure.

You pay only for the cartridges you consume, when you consume them, with no minimums or maximums. Optional break-fix services (OEM and third-party) are also available with prepaid, monthly and retainer payment options. The cost-plus discounted pricing applies to all printers, printer consumables and break-fix services offered by CDW.

▪ Pay-per-click or Cost-per-page: this model provides a pre-determined cost for each page printed, based on printer model and type of printing (mono and/or color). Break-fix services are typically included in the page cost, or as a fixed monthly amount. You are invoiced monthly for the actual number of pages printed during the month, again with no minimums or maximums.

Whether trying to make the task of purchasing printer supplies more automated, convenient, and cost-effective – or looking to update and optimize a printer fleet, CDW Managed Print Services can help.

To learn more about CDW's Managed Print Services, contact your CDW account manager, call 800.800.4239 or visit CDW.com/mps



Take control of your printing costs. Let CDW and HP help simplify your printing requirements. As more organizations look for ways to reduce costs and conserve capital, the CDW Managed Print Services (MPS) offering delivers a simple way to get a handle on the largely undocumented, unpredictable and often out of control annual printing expenditures you face.



CDW's MPS program provides a simple and customizable way to procure printing hardware, supplies, service and support from CDW and HP with two flexible options. Choose from cost-per-cartridge as well as cost-per-page solutions. Each is designed to offer flexibility in managing printer fleets. In addition, our expertise and software tools can assist in reducing the time and money spent to administer the print environment.



Look to CDW and Xerox for a managed print services solution tailored to the specific needs of your organization. With an inclusive cost-per-page program, you can manage print volume as efficiently as you manage copies. There's no better way to gain visibility of your print spend, free up budget for more strategic projects and drive competitive advantage.



With today's budgets scrutinized and squeezed, organizations are looking for ways to cut costs and save money. Here's where CDW's Managed Print Services can help. With 15-to-25 percent of operating budgets spent on documented-related activities – according to InfoTrends research – MPS offers ways to reduce costs, boost productivity and solve security issues.

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