Unlocking Hidden Savings in the Enterprise Through Output Device Consolidation, Automated Fleet Management and Workflow Enhancements
Introduction

We are in the toughest economic climate most people alive today have ever seen. Banks are failing at a historic pace. Brokerage houses and retail chains are disappearing. The automotive industry is on the precipice of calamity. Home foreclosures have soared to numbers that defy comprehension. In January 2009, the national unemployment rate rose to 7.6 percent, a figure not seen since 1992.

It’s no wonder then, that businesses, from the smallest corporation to the largest multinational enterprise, are rapidly stepping up their already frantic search to slash costs, retain liquidity, and maintain profitability. Unfortunately, many businesses equate cutting costs with cutting payroll, leading some to believe this is the cheapest, fastest way to achieve savings. There is a good chance this belief is misplaced.

Similarly misaligned is the belief that turning off IT investments is a wise move. A recent issue of McKinsey on Business Technology titled, “Managing IT in a downturn; Beyond cost cutting” says “still, except in the most dire circumstances, turning off technology investments during a downturn is counterproductive. When business picks up, you may lack critical capabilities … Targeted IT investments can make operations more efficient and increase revenues, delivering returns larger than simple cost-cutting measures typically do … Simplistic cuts, applied across the board, may endanger critical business priorities from sales support to customer service.”

IT, rightfully so, is being looked at as a rich spawning ground for projects that can reduce costs and improve productivity. The challenge is to identify which opportunities will have the most beneficial impact, which will achieve this result the fastest with the least amount of impact to existing infrastructures, and which can be implemented for the least cost. Ironically, the solution is as close as the printers on which the mission’s reports are produced. Your output environment.

This report examines a clear path for achieving significant cost savings, divided into three steps for convenience. First is replacing separate printers, copiers, faxes, and scanners with a single integrated device that performs all of these functions while consuming less power, floor space, paper, and toner. Second is the implementation of advanced and fully automated management techniques to maximize availability and minimize operational costs. The final step is deployment of workflow applications that use those multifunction devices to minimize the use of paper while simultaneously enhancing productivity and further reducing costs.

In this report, we scrutinize the astonishing costs of maintaining separate fleets of output equipment and explore device consolidation as a fertile ground where profound savings and improvements in workflow can both be attained with relative ease. Further, we examine how new technology supports your company’s “green” efforts, improving your standing in the community, reducing your company’s carbon footprint and reducing expenses even further.

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1 In the first two months of 2009, 16 U.S. banks failed and were placed into receivership by the FDIC. (www.fdic.gov/bank/individual/failed/banklist.html)
2 In 2008, 3,157,806 foreclosure filings were reported on U.S. properties, a 225 percent increase compared with 2006, according to RealtyTrac. (www.realtytrac.com/ContentManagement/pressrelease.aspx?ChannelID=9&ItemID=5681&accnt=64847)
Finding the Savings

Under normal circumstances, IT spending grows from 3 percent to 5 percent annually. But these are not normal times. In Nov. 2008, research firm IDC took the unusual but necessary step of scaling back its 2009 U.S. IT spending outlook, down from an initial forecast of 4.2 percent growth to a meager 0.9 percent.\(^5\) Through 2012, IDC predicts that in the U.S., more than $300 billion in technology industry revenue will have been lost due to slower IT spending.

Yet, IT must continue to operate and find the funds to do so. Where will the difference be made up? Certainly not by spending less on storage and security. Owing to regulatory requirements, records-retention mandates, increases in online transactional activity, and other factors, IDC still believes that spending on disk storage will continue to double every two years through 2012, a compound annual growth rate of nearly 53 percent from 2007 to 2012.\(^6\) As for IT security spending, it, too, is largely immune to the current economic downturn: As recently as Sept. 2008, fully 75 percent of 1,200 North American IT decision makers polled by market analysts at Forrester Research said they expected to see no cutback in IT security spending in 2009.\(^7\)

Clearly, IT must look elsewhere to find – or perhaps, manufacture – savings. Surprisingly, a major area ignored by most companies is how they deal with paper: printing reports, sending faxes, making copies, document routing, filing, and even waste collection and recycling.

The idea is far from new, but printing – or printing less – is about as unglamorous as any technology project can get, and consequently receives too little attention. Yet IT has been warned: As far back as 2001, research and advisory firm Gartner put IT on notice to pay attention. In the landmark report “Rightsizing Output Fleets: The Hidden Gold Mine”, says, “Copiers, printers, faxes and scanners have never been an enterprise’s top priority, but the costs to maintain separate fleets of output equipment are staggering.”\(^8\) Indeed, if companies had any sense of just how much they spend annually on output technology, including hardware, supplies, electricity, management, maintenance, and waste, they would, after getting over the sticker shock, see an opportunity of enormous magnitude.

Just how bad is it? Noting that “output equipment fleets are one of the most overlooked and undermanaged sets of assets in many enterprises,” Gartner’s research finds that the cost to operate a typical fleet of output devices in the average enterprise ranges from 1 percent to 3 percent of the company’s total annual revenue, a figure corroborated by Lexmark’s own research. Thus, a corporation with annual revenue of $2 billion spends between $20 million and $60 million on output – every year.

Based on simple math and using the *Fortune* 500 list, the total cost of output for #1 Walmart would be between $4 and $11 billion, and between $50 and $140 million for Scana #500.

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\(^7\) [www.forrester.com/ER/Press/Release/0,1769,1224,00.html](www.forrester.com/ER/Press/Release/0,1769,1224,00.html).

\(^8\) “Rightsizing Output Fleets: The Hidden Gold Mine,” Gartner Inc., March 19, 2001;
This amount is only slightly less than the entire annual marketing budget for many U.S. companies. According to consulting firm Go-To-Market Strategies, nearly one-third of U.S. companies spend between 3 percent and 5 percent of their total annual revenue on marketing.\(^9\)

To put it another way, many businesses spend as much on running their printers, copiers, and fax machines as they do on marketing their own products, the equivalent of up to $1,500 per year for each knowledge worker. In other words, for every $1 billion in revenue your own company takes in, your employees print 88 million pages. That’s 17,600 cases of paper, a veritable trainload. For Walmart, which recorded 2008 revenue of just under $379 billion, the calculation works out to more than 6.6 million cases of paper per year, enough to fill several trains. The potential for savings is a study in understatement.

Concluding that “output fleets represent a hidden gold mine of cost savings to enterprises,” Gartner urges corporations of all sizes to act and do so quickly. “By developing a comprehensive approach that includes rightsizing, cost-per-page oriented procurement and ongoing management of the fleets, enterprises can reap the saving benefits of this often-overlooked technology area.”

Unknown Metrics

It’s clear that a significant opportunity to save exists, one that can be achieved both quickly and in an orderly fashion with minimal IT resources. While we know the savings can be huge, the question is, how much will your company save? For most corporations and enterprises, a near total lack of understanding of the current output environment makes it nearly impossible for IT leaders to predict.

Most enterprises don’t have the slightest idea how much they spend on imaging and output. What don’t they know? Consider the basic information the majority of companies cannot supply:

- Number of printers, copiers, fax machines, scanners
- Makes, models, and ages of devices
- Physical location and asset tracking of devices
- Paper, toner, electrical consumption
- Usage by department or employee
- Helpdesk and support costs
- Maintenance and repair histories

That’s right. Most corporations don’t know how many printers they own. Without a clear understanding of these metrics, it is impossible to calculate how many millions of dollars a corporation is spending — and wasting. Compiling these numbers is essential. Thus, as a first step, every business, regardless of size or geographical spread, should work with a knowledgeable partner to assemble these metrics and then keep them current. Only with these metrics in hand is it then possible to calculate the financial benefits that can be achieved.
An assessment of your current environment should take a look at a representative sample of your business. If your business operates headquarters and branch locations, it is important to capture data from both types of locations, for example. If you primarily operate from a headquarters location, it is important to assess several different departments to get a clearer picture of your current state.

Your assessment should include network-based and on-location data collection and a thorough analysis of that data, including the current capabilities of your output fleet, its impacts to your users, and its cost implications. The findings should explain your current state, potential improvements, and demonstrate an estimate of savings, including a flexible path to achieving those cost savings and efficiencies.

Many assessments reveal a large quantity of personal printers that are directly attached to PCs and therefore are not shared network resources. These devices are often purchased outside of standardized procurement methods and amplify output costs under the radar because of their appetite for expensive and lower yield cartridges. Assessments will also likely reveal devices that are over-utilized and many more that are under-utilized, devices that are inoperable or that have remained in use far beyond a reasonable life span.

It’s true that you can’t chart a path to achieving your goals until you know where you are right now. A thorough output assessment will establish a baseline that you can use to effectively measure your progress. With a clear view of your current state, a phased plan can be developed and implemented to drive the cost savings and process improvements you seek.

To achieve maximum benefits, businesses need a course of action that divides output fleet modernization into three distinct steps: device consolidation, fleet management, and workflow enhancement.

The Paper Path to Savings

Step One: Choose a Proven Partner
Step Two: Appoint an Internal Champion to Drive Output Initiatives
Step Three: Complete an Output Assessment
Step Four: Develop an Output Strategy Aligned with Your Business Objectives
Step Five: Consolidate Devices
Step Six: Manage Your Environment Continuously
Step Seven: Identify and Retool Paper-based Workflow Processes with MFPs
Step Eight: Measure Your Progress at Regular Intervals
Device Consolidation

Device consolidation is the replacement of a separate printer, copier, fax machine, and scanner with a single integrated multifunction printer (MFP) and placing the new MFPs strategically and methodically based on the specific needs of the end users.

Merging printer, copier, fax, and scanner into a networked MFP-based solution offers many benefits:

- Allows countertop space to be reclaimed for other use
- Reduces electrical consumption from four separate units
- Reduces heat output leading to less demand on HVAC
- Allows standardization on a single toner cartridge model
- Reduces maintenance requirements and costs
- Adds new capabilities, such as scan to e-mail
- Replaces old, slow printers with modern high-speed technology
- Cuts paper use by up to half with two-sided duplex printing
- Minimizes plastics recycling through use of high-yield toner cartridges

Throughout organizations of all types, it is not uncommon to see, in a single room, printers situated next to departmental copiers and fax machines, all located across from offices with personal printers. The devices most likely are from different manufacturers, each with different supplies, parts and service requirements.

Simply put, device consolidation is not a “one and done” proposition.
The key is to match the needs of your users with the technology that's right for the job, the volume and the task. Taking a studied approach to consolidation is essential; it should not be construed as a straight one-to-one replacement. Indeed, it is possible, and even likely, that one departmental MFP could replace a half-dozen desktop printers, two copiers, three fax machines, and one scanner. This determination is the result of on-site analysis.

Several years ago, Lexmark developed the “Employee to Asset Ratio” metric, which recommended an average of one output asset (printer, copier, fax machine, or scanner) for every three people in the organization, a 3:1 ratio. Today, thanks largely to advancements in MFP technology, Lexmark now recommends an average “best practice” ratio of 12:1, measured at the enterprise level. Individual departments or lines of business may justify ratios that are significantly higher or lower.

A related metric, “Per-capita Volume Ratio,” expresses pages printed or copied against headcount as a ratio. When first introduced, the average was about 1,100 pages per user per month. With modern MFPs and applications that reduce the need for printing, this ratio often drops to fewer than 500 pages per user, per month.
Ratios, however, do not tell us about device utilization. In another example of companies having little insight into their own operations, Lexmark industry analysts visiting potential customer sites find in almost every case that two-thirds of installed output devices are underutilized. This practice wastes purchasing dollars that could be better spent elsewhere or simply conserved. A key aspect of device consolidation is the best practice of demand matching, avoiding both excess capacity in any machine as well as taxing any device beyond its recommended monthly duty cycle. It makes little sense for a printer capable of 100,000 pages per month being called upon to print only 5,000, but it happens quite often. To assure that either extreme does not appear in the months and years following deployment, continuous remote monitoring of devices is a requirement.

One important factor to keep in mind as you are reviewing your assets and considering the deployment of new devices is security requirements. Security takes many forms but you need to ensure that your provider is able to address issues concerning regulatory compliance, network infrastructure protection, data protection, access control and risk mitigation.

Once the number and type of MFPs and their optimal locations are determined and plotted on a floor plan, deployment can begin. The resulting reduction in device headcount is instantly obvious to anyone walking down a hallway. It also lays the technological foundation for continuous remote fleet management and the subsequent deployment of new workflow applications that fully leverage the capabilities of the MFP devices that are now in place.

**Advanced Fleet Management**

Ongoing management of the fleet is essential. Fleet management is a proactive, data-driven process for maximizing device availability, including real-time monitoring and diagnosis, dispatching of service technicians, and analysis of usage metrics and consumables consumption. The key message is that fleet management is much more than just break/fix maintenance.

The foundation of a properly managed environment is asset management services - having total visibility of the entire fleet. Only through a comprehensive asset management program is it possible to “see” every device on the enterprise’s global network, regardless of make or model. At a basic level, this capability assures that every device is accounted for, that no device suddenly goes “missing” and that no rouge or unauthorized device suddenly appears. Beyond actually seeing the device, asset management means being able to understand what’s going on with each and every device – real time and from a historical perspective as well.
Ongoing, proactive fleet management improves service levels and device availability. When a device generates an alert message, it can be analyzed immediately using a suite of remote diagnostic tools. In most instances the issue can be resolved before the end user or the help desk ever knows an alert situation existed. Only in the event an alert cannot be handled remotely does it become necessary to dispatch a technician. Response time is redefined, help desk call volume drops, device availability is maximized, and end users are more productive.

The same approach extends to consumables management. In the vast majority of companies, supplies are ordered in bulk and then stored for when they are needed. This is a recipe for waste. Inventory often gets misplaced and toner frequently is ordered for products that are no longer installed. Requisitions from individual employees or departments invariably lead to hoarding. Thus, it should come as no surprise that when an on-site analysis is performed, pallets and pallets of toner are removed, often for devices the company no longer owns.

Online remote fleet management tracks the toner level in every device continuously, allowing implementation of an automatic toner replenishment program. A low-toner e-mail message can alert a clerk to place an order manually. In a more automated system, low-toner alerts can trigger an automatic just-in-time replenishment order from your chosen supplier. With the specific device indicated on the purchase order and shipping label, routing of the replacement cartridge to the correct printer or MFP in the exact building, floor and location is assured. Using extra-high-yield cartridges greatly lengthens the interval between replacement and reduces the amount of plastics requiring recycling.

Tracking toner use and automating replenishment may seem menial, but it removes users from the process of needing to order and stock supplies, giving them more time to focus on their job. With the process of ordering supplies
Examples of workflow applications include:

Healthcare:
Replacement of handwritten medication prescription orders faxed to a hospital’s pharmacy by scanning those orders and transmitting them electronically. Delays are eliminated, accuracy is maximized, and inventories of pre-printed paper forms can be eliminated.

Banking:
Elimination of courier transportation of customers’ new-account forms in bank branches through scanning and electronic transmission. Electronic signature cards become available in all branches within minutes instead of weeks.

Education:
Generating multiple choice “bubble sheets” for administering student tests, replacing expensive proprietary pre-printed forms. Scanning completed tests through a MFP that interfaces directly with test-scoring software. Sheets are printed on-demand by teachers in their classrooms and scanned in individual schools’ administrative offices eliminates the need for transportation costs associated with centralized distribution and processing.

consolidated in one place, obtaining the best-possible pricing is more assured. Finally, with the ability to track exactly where that toner cartridge is going, it can be directly charged to a specific department.

Workflow Enhancement and Paper Reduction

The direct result of device consolidation is a first wave of savings and cost avoidance, achieved by operating a smaller, more reliable, fully managed fleet. Continuous remote fleet management and oversight, whether performed by the enterprise’s internal IT department or outsourced under a managed print services engagement, provides a second wave of financial gain. With the consolidated infrastructure complete, the foundation for further benefits, gained through new workflow applications or enhancements to existing processes is in place.

One route to achieving productivity gains is to transform the corporation into one that runs with significantly less paper, relying instead on electronic forms, advanced workflows, and virtual filing cabinets. Capable of yielding profound productivity gains, this approach will transforms redundant, paper-based processes into electronic ones. Such business optimization is not merely about printing less, it is ideally about not printing at all – unless absolutely necessary.

_McKinsey on Business Technology_ says “As IT becomes tightly integrated with processes, breaks in workflows often get built into systems and diminish productivity. Shining a light on these areas with an integrated view of operations and technology may well surface problems, which often involve out-dated processes, manual steps, redundancies, and bottlenecks. An 80/20 approach can highlight a modest number of activities that, when corrected, deliver a disproportionate amount of value.10”

Doing so can also contribute significantly to your company’s sustainability initiatives. Consider this: in regard to a device’s carbon footprint, manufacturing (which encompasses raw material extraction, production of parts and product assembly) constitutes about 7 percent of its total carbon footprint. Distribution, including packaging, shipping and delivery to the customer, contributes only another 0.4 percent. It is not until the customer begins using the device that the numbers change considerably. Energy adds 8 percent. Toner production and consumption accounts for only another 6 percent of the overall carbon footprint. By far, the dominant contributor to an MFP’s carbon footprint is paper – the millions of pages the device will print during its service lifetime. Paper consumption accounts for up to 80 percent of the total carbon footprint. So while devices may be designed for the environment and can directly address about 7 percent of the total carbon footprint, it is customers that need to actively change their printing behaviors to help minimize the other 93 percent, which is generated throughout the entire ownership period. With the help of a trusted partner with a vested interest in your business objectives, printing less becomes part of your overall output strategy and not just an after thought.

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Ongoing Responsibility

Clearly, device consolidation is a path to profound savings. Unfortunately, often overlooked is that for consolidation to pay ongoing dividends, it must be revisited regularly. Simply put, device consolidation is not a “one and done” proposition.

At this point, with device consolidation considered a rousing success, many enterprises choose to close the book. This is a mistake. Device consolidation requires periodic re-visititation to prevent “asset creep,” relapses of device proliferation and a return to excess capacity. These conditions can reappear for several reasons.

Rogue devices added to the network. It still happens often. A manager who feels the closest MFP is too far away or hasn’t taken the time to learn how to use confidential printing features, covertly adds a new personal-size printer to the network or desktop, hiding its physical presence under a desk and its purchase price under another budget category.

Staff attrition and workforce reduction. In difficult economic times, when companies are trimming employee rosters, it is likely that dozens or hundreds of cubicles occupied on a Friday may be vacant the following Monday. Devices serving this population are no longer needed.

Temporary devices become permanent. Even with properly sized and located MFPs, an extraordinary or unanticipated project, such as a new legal case with thousands of documents to be scanned or acquisition of a competitor may require installation of additional hardware, usually under a short-term lease arrangement. Somehow, many of these devices, whose convenience employees come to prize, remain onsite long after their presence is no longer required.

Alternative Oversight Methods

A good method, albeit the simplest, is to perform unannounced physical sweeps of the premises, department by department, and take a new physical device inventory. Any product not previously tallied is likely to have been brought in and installed under cover of darkness. It has got to go.

Much better is to have an automatic means to detect instantaneously when any device is added to or removed from the network and immediately generate an alert message. Though several vendors offer a software tool that can perform this action, Make sure any software that you use for this task is able to detect all vendor makes and models, not just those of its brand. Otherwise, your inventory will be incomplete.

However, the best possible solution is the one that allows the customer to rid itself of device management entirely. Through managed print services, like that offered from Lexmark, enterprises outsource every aspect of device fleet management, including tracking physical assets, hunting down devices that either suddenly appear on or disappear from the network, performing on-site service, running
automatic preventative diagnostic tests, shipping just-in-time replacement toner cartridges when low-toner-level alerts are received, and maintaining real-time, highly detailed usage metrics.

Analysts around the world agree. According to IT Analytics, Ltd., “By having the printing infrastructure planned and managed by one vendor means that businesses spend less time fixing printing problems, ordering toner, ink and paper or implementing new document management and workflow solutions. Through adopting efficient and responsible printing practices, businesses can save consumables and energy whilst reducing downtime and improving productivity.”

Culture Change Required

As businesses re-tool their output environments, culture change is inevitable. It is imperative that customers challenge the printing habits of individual users. Corporate “green” efforts that explain carbon footprint concepts help employees feel connected and instill a sense of responsibility, leading them to modify their own behaviors. Educate employees on how to use energy, paper and toner-saving features that support the environment and deliver cost savings to the business at the same time. Challenge how many devices you really need. Challenge those for whom output is not a priority. And challenge the vendor with which you do business today. Ask the probing questions to ensure you are on the optimal path to savings.

Conclusion

Device consolidation pays financial dividends in three distinct ways. In the hardware deployment phase, elimination of standalone printers, copiers, faxes, and scanners reduces headcount, operating and maintenance costs, and electrical consumption. Fewer, more reliable devices minimizes downtime and reduces the cost of maintenance agreements. Once deployment is underway, advanced fleet management techniques track assets, usage, and consumables. Real-time usage metrics allow the reallocation of assets to closely match demand and assures that units are neither over- or underutilized.

It is critical that you choose a partner that understands your industry and is capable of designing and implementing a complete output strategy. It’s likely fair to say that any hardware manufacturer offers competent products, but it is also clear that many are capable of providing little beyond just the hardware.

Within your own enterprise, appointing an ambassador who assumes responsibility, accountability, and leadership is an essential step. IT Analytics Ltd. agrees. A recent report states that “Ultimately, a successful print management strategy should be driven by an internal champion or executive sponsor who can provide focus and gain acceptance from both senior executives and end-users.”

Part technical expert, part politician, this leader brings disparate departments and organizations together for a common goal. With a project leader in place, a

Has My Current Vendor Helped Me?

- Take a complete inventory of my output fleet?
- Build a comprehensive output strategy?
- Reduce the number of devices?
- Improve my business processes?
- Automate consumables fulfillment?
- Develop a sustainability strategy?
- Proactive and continuously manage my output environment?
- Reduce the output burden on my help desk?
- Support the specific needs and requirement of my end users?
- Protect my information with advanced security features?
- Change the printing culture at my company through education and training?
- Reduce printing overall?


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complete output assessment is in order to better understand the organization’s current state. Any existing assessment that is more than a year old is likely obsolete.

In the midst of the current economic crisis, CIOs and IT departments everywhere are being called upon to deliver generous cost savings. Many of the traditional sources of that savings within IT have already been tapped. Therefore, the time is now to look at your output environment as a new and continual source for savings.

IT Analytics Ltd. underscores this point. “A recession only increases the pressure to lower capital expenses and to stay competitive businesses can’t ignore the productivity advantages that managed print services can offer. Although businesses may now be holding on to their assets for longer, MPS (managed print services) offers a way to reduce costs and improve productivity by utilizing the right software and services.”

IT Analytics Ltd.
“MANAGED PRINT SERVICES: THE GREEN LIGHT AT THE END OF THE TUNNEL”

Given the challenging time in which we live, any delay in launching an output assessment in your organization is a missed opportunity. The savings are too significant to overlook.
