

Improving IT efficiency through effective print management

How a managed print environment can reduce the strain on IT resources.

June 2010

Midmarket businesses face many of the same IT challenges as larger businesses, trying to accommodate increasing demand for new IT capabilities and services. Shrinking budgets and a shortage of skilled resources means that smaller businesses are struggling to manage the day-to-day IT operations (“keeping the lights on”). Investment in strategic projects, which can yield longer-term efficiencies to help the business grow, consequently suffers.

The administration and management of printing can be time consuming and often relies on manual processes. Even small environments of 10 to 20 printers can prove to be a burden for businesses that don't have the time or necessary resources. Consequently, many businesses are rethinking their approach to managing the print environment, either by adopting a managed service or by implementing centralised print management tools. This can ensure the high availability, reliability and manageability of printing resources, while leaving IT staff free to focus on core activities.

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An independent report by Quocirca Ltd.

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Commissioned by HP

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1 Introduction

The ongoing squeeze on IT budgets means that today's key IT business challenge is to do more for less, and find ways to reallocate resources and budget from routine operating expenses to investments that more directly support strategic company objectives. The continued focus on environmental issues means that businesses cannot afford to overlook "green" concerns in their efforts to generate increases in operational efficiency. Furthermore, businesses must continually stay abreast of, and adhere to, new and changing government and industry compliance standards. Whilst many businesses are turning to server and storage virtualisation, IT standardisation and cloud computing to support the strategic imperatives of managing cost, complexity and risk, there is now an increasing focus on the strategic value in effective print management.

Printing can represent a considerable expense when printing resources are not used efficiently and when the utilisation of devices is not matched to demand and service level requirements. Even in this digital era of email communication, web-based research and scanned-to-PDF documents, paper remains the preferred way for many businesses to distribute information. However, the speed and convenience of today's personal and networked printers has created a culture of misuse in many businesses, with money, time and resources wasted every time the print button is pressed.

Consequently, the print environment can be a huge cost and productivity drain for many businesses, with the running costs relating to energy, consumables, paper, space and staff productivity often a hidden expense that remains unchecked. As a result, midmarket companies are looking for ways to improve the utilisation and management of the print environment whilst redirecting operational spending by increasing staff productivity and efficiency. Productivity-enhancing measures include the use of print management software tools, as well as the adoption of managed services to consolidate devices, improve utilisation rates and automate supplies management.

The third in a series of Quocirca papers¹ which have focused on managing cost and security of the print environment, this paper explains how the use of automated print management tools can help midmarket businesses free up resources to focus on more strategic IT activities. Print management benefits of increased equipment utilisation, improved service reliability and the positive impact on both internal and external business processes can apply to smaller businesses as well as to enterprise-class operations. This paper should be read by anyone who has responsibility for purchasing, managing or supporting printing in a midsize business, as well as business managers looking to improve their organisation's overall performance.

The hidden costs of printing

It is estimated that the hardware acquisition cost represents just 5% of the cost of printing. An additional 45% relates to the cost of consumables, devices, maintenance and paper whilst an estimated 50% of printing costs are hidden. These include:

- **Help desk calls:** printers and related devices can very quickly stretch IT resources as the help desk is often the first port of call for printer problems.
- **Purchasing and stocking of consumables:** Operating a heterogeneous print infrastructure means that a multitude of consumables must be purchased and stored—often leading to stockpiled supplies.
- **Physical space:** a mixed and aging printer fleet can take up valuable floor space. This can be redistributed more effectively through device consolidation and by using multi-function devices.
- **Volume of printed output:** low volume printing often results in a higher cost per page than high volume printing unless devices are operating at or close to maximum efficiency.
- **Finance and administration:** maintenance bills, consumables, repairs and new purchases, as well as managing multiple service contracts, place a burden on both financial and administrative resources.

2 The IT print management challenge

Inefficiencies in the print environment

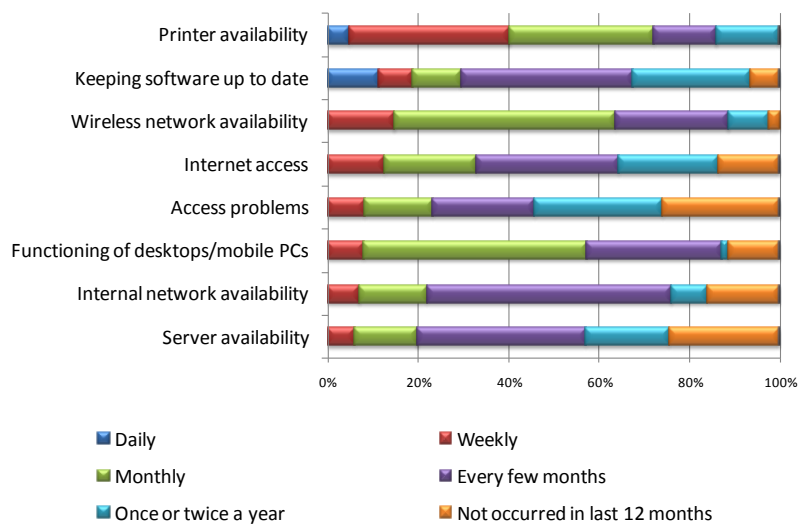
It is estimated that IT departments spend up to 80% of their budgets just keeping their networks up and running, with many midmarket businesses (defined by Quocirca as between 99 and 1000 employees) turning to automated tools such as virtualisation and externally provided solutions to improve resource utilisation and performance, lower infrastructure complexity and free IT resources to focus on business priorities. The print infrastructure is characterised by the same challenges of complexity and poor device utilisation and, if left

unmanaged, can lead to spiralling running costs created by wasteful printing. With an estimated 20% of printing deemed to be unnecessary (and can be much higher in paper-dependent industries), this level of wastage in paper and ink translates into both significant financial and environmental costs for any business.

Although integral to business workflows, the print environment has largely evolved independently of the IT infrastructure. Despite the sophistication of today's networked multifunction printers (MFPs) that scan, copy, print, fax and email, have hard disk storage and memory and run virtual embedded platforms, these devices often remain on the periphery of the IT management radar. The lack of standardisation between vendors means that most have their own proprietary print management tools and software, and daily problems such as paper outage, device failure or consumables depletion can be an administrative headache for IT and staff alike. With an estimated 20% of help desk calls related to print problems, businesses can no longer afford to operate an unmanaged print environment within the cost and resource constraints they face. Quocirca research² reported in 2007 that printer problems were the most common IT issues amongst small and medium businesses (Figure 1).

Figure 1

Frequency of IT management problems



A lack of centralised print management tools means that many businesses lack the knowledge of how much is being printed, by whom and on which device. This lack of visibility means it is almost impossible to track print costs, proactively address equipment downtime and ease help desk demands. Additionally, many businesses operate an ad-hoc approach to purchasing consumables such as ink, toner and maintenance kits leading to administration time wasted in manual ordering processes and checking best prices. Such manual processes can impair a company's competitiveness. There is also the consequential security risk associated with information being printed in an uncontrolled manner, with others being able to pick up forgotten or mislaid output, or it being placed, unshredded, into waste for normal disposal. All of these challenges can be addressed through effective print management to help control usage, automate supplies management and improve service reliability.

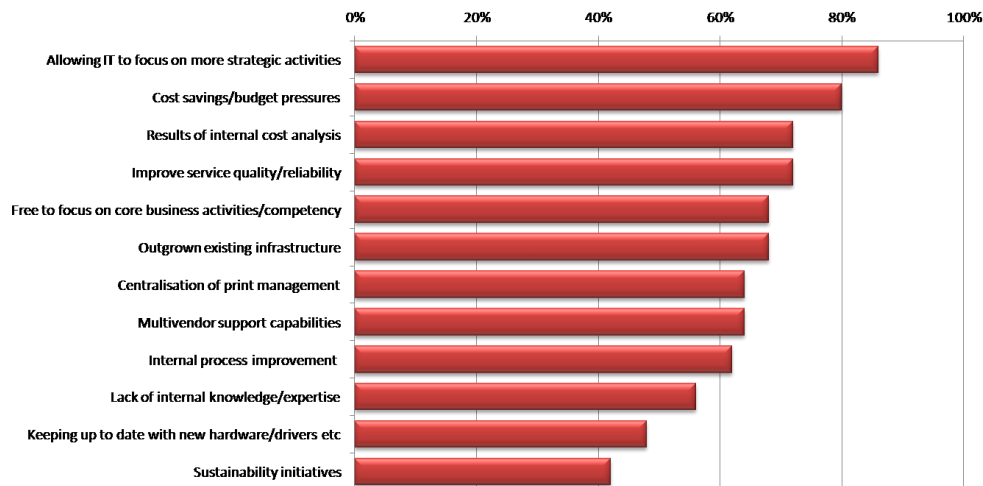
Effective print management seeks to reduce the complexity and improve how print assets are used, enabling costs savings to be reallocated from routine operating expenses to strategic investments, such as innovative technologies, services, techniques and strategic opportunities. By reducing the time that staff spend on print related activities—whether it is ordering supplies, dealing with device downtime or finding the right printer for the right print job—a cost-effective, managed print environment can increase productivity and support business growth.

3 Creating a managed print environment

Quocirca research indicates that the top two drivers amongst midmarket organisations already using or considering MPS are allowing IT to focus on more strategic activities and cost reduction imperatives (Figure 2).

Figure 2

What issues influenced the decision to use or consider MPS? (50 SMBs across Europe)



With IT departments under constant pressure to contain capital and operating costs, more businesses are looking at new ways of containing escalating printing costs by reviewing their existing print infrastructure. An in-depth assessment and inventory of the printer environment will enable it to be consolidated and optimised for use. A managed print service enables businesses to optimise their current print infrastructure, without the need for additional or extensive hardware investments. An optimised print infrastructure can help fuel business growth by managing costs with enhanced device utilisation, reduced operating expenses and making it easier to keep the entire print infrastructure in line with the overall growth objectives of the business.

1.1 Filling the IT resource gap: leveraging external capabilities with a managed service

Given their limited IT resources, midmarket businesses must find creative ways to support their growing needs. Tapping into external resources can be an effective method to supplement their internal IT resources, especially since the channel partners currently used by midsize businesses, including VARs and systems integrators, are often already familiar with the technology the firms have in place. These channel partners not only provide consulting, installation, training, support, and even managed services but also often leverage market knowledge regarding specific industries or horizontal solutions, which enables them to identify appropriate value-added solutions and services. Further, they often provide the ability to customise resources to help tailor solutions to meet a company's specific requirements.

All businesses, regardless of size, can enjoy the benefits gained from a managed print environment. There are two main managed service approaches that can be taken, dependent on the scope of printing needs.

- Basic entry-level packaged services.** Hardware is bundled along with supplies, maintenance and support, based on a cost-per-page charge. These contracts offer predictable monthly pricing based on estimated print volumes, service and support, and may also offer proactive supplies replenishment if remote monitoring is used to track supplies usage. As these contracts are linked to the purchase or lease of hardware, they do not necessarily require an audit of the print environment, although Quocirca strongly recommends that an audit is carried out to ensure that the right approach is being taken as to the types and numbers of printer devices being bought or leased.

- **Full MPS.** This is the end-to-end management of the print environment by an external provider. A full assessment of the print environment is followed by optimisation of the printer fleet through device consolidation and implementation of print management solutions. The MPS provider is responsible for the ongoing management of the print environment through services such as proactive maintenance and support and automated supplies management.

Both approaches to MPS are based on defining a cost-per-page charge, which is based on predicted monthly, quarterly or annual print volumes. It is therefore imperative that businesses conduct a comprehensive analysis of their print usage to avoid overreaching agreed print volumes and incurring overage charges. In many cases, such an assessment will also point out where current printer usage is overly wasteful. By dealing with such issues prior to moving to an MPS system, savings can be made immediately and directly to offset the cost of the MPS solution itself.

2.1 Reducing the strain on IT resources: using centralised print management tools

Whether a business chooses to use a managed service or not, there are a range of freely downloadable tools available from printer and copier vendors that enable IT departments to gain more visibility and control of the print infrastructure. Through remote monitoring, these highly automated tools can also enable the print environment to be managed proactively, reducing downtime and lowering help desk print-related enquiries, leading to reduced operational costs and improved IT productivity. In addition to freely available tools, businesses can use additional solutions for document accounting or security in accordance with their business needs.

A variety of solutions are available, such as:

Universal print drivers (UPD)

Most manufacturers now offer a freely downloadable universal print driver which provides a single intelligent advanced driver that can be used across a heterogeneous fleet of MFPs and networked printers. The time and effort required to deploy and upgrade print drivers on a network is considerably reduced as IT departments no longer need to support device-specific drivers and there is no need to change drivers when new printers or MFPs are installed. Universal print drivers provide users with a consistent single interface for all printers, with real-time, dynamic reports of printer status. As a result, users can easily identify the best printer for their needs, quickly choose the correct options and see updated consumables status without the need to call on the assistance of IT. By simplifying the process for users, unsuccessful print attempts are reduced with fewer calls to the help desk.

Some UPDs are also location-aware, so that when a user logs into a new location, the driver will initiate a search-and-discovery of printers on the user's local network. This dynamic configuration is especially useful for mobile workers visiting new locations, eliminating the need to identify and install drivers.

Centralised print management

Tools that install, configure, manage and monitor networked printers or MFPs are available from all manufacturers, again generally as free downloads. Probably the most popular is HP Web Jetadmin, but commonly these tools will all offer the following functionality:

- **Device discovery:** the most effective tools support multivendor environments, and both locally and networked connected devices. Centralised tools allow IT managers to discover, install, configure, manage and troubleshoot output devices and queues.
- **Automatic firmware upgrade:** automatically configure firmware upgrades to be run on specific device classes remotely, during low network traffic hours, and receive confirmations once upgrades are configured.
- **Reporting:** most print management tools can provide high-level usage and cost information or drill down to individual job level.
- **Advanced tools also integrate with network management tools** such as IBM Tivoli, CA Unicenter and HP Network Management Center

Advanced document cost control

In addition to a vendor's own print management tools, there is a range of third party products from vendors such as Equitrac, Pharos and Capella which enable IT managers to track how printer devices are being used and by whom. Features of such packages include:

- Enforcing rules for colour/black and white output or duplex printing.
- Enabling multiple pages to be printed on a single side (n pages per sheet).
- Redirecting jobs from desktop printers to MFPs with lower cost-per-page.
- User access control by establishing permission-based access to devices and functionality.
- Analysis of utilisation levels to see which devices are being over or underutilised and expenses can be allocated by department, cost centre, project or client.
- Track and report on usage costs by individual, department or other user grouping.

Secure print

Secure printing solutions are based on a pull-printing model, where print jobs are only released on user authentication, such as a PIN, proximity or smart cards or biometric identification. Such solutions restrict user access to printers and MFPs and audit usage of a user's copy, email, fax, print and scanning activity. As well as enhancing document security, implementing a secure print solution reduces waste by ensuring print jobs are only released by and to the intended user and allows printer "roaming" by enabling users to collect print output from any location. Third party solutions, such as Ringdale's FollowMe, support a multivendor printer fleet meaning that users can release print jobs at any networked device within an organisation.

The above solutions can be either implemented by organisations that manage their own printer assets, or can be provided as part of an MPS solution. Buyers should carefully consider the capabilities of each solution based on their individual printing needs. Often a print management solution such as Web Jetadmin may be sufficient to handle all print management needs within a smaller organisation, while a larger organisation with specific document security needs may consider a more fully featured solution available from companies such as Equitrac. Whatever solution is chosen, they offer the ability to provide complete transparency into print usage, reduce wastage and improve environment credentials for businesses of any size.

4 Print management benefits

Print management software is commonly used to support a range of functions such as network device management, job management, access control and usage reporting. Across these functions, it provides a number of key benefits that can result in cost savings and operational efficiencies. These benefits include the following:

- **Visibility into print usage, costs and assets.** Print management reporting can help IT and the business monitor usage, supplies trends and control usage providing full transparency into cost and usage.
- **Saving IT staff time by automating routine tasks.** Centralised print management allows administrators to remotely deploy, manage and troubleshoot multiple devices at once. By automating routine tasks such as firmware updates or applying configuration changes to whole workgroups, departments or complete organisations, IT efficiency is increased by reducing time spent on routine functions, and by increasing the scale of operations that can be achieved by each staff member.
- **Leveraging of staff resources, leading to increased IT productivity.** Productivity is a measure of how much staff time can be spent on work that brings value to the business. This could be deploying virtualisation or cloud computing models that can increase competitive advantage, or in applying more resource to important IT projects to manage intellectual property, enable better collaboration or streamline value chains. Use of print management software can help increase the proportion of staff time that can be used for more productive work, thereby increasing business value.
- **Higher availability.** With business functions throughout the organisation increasingly depending on print resources, device uptime is a key IT requirement. Unplanned downtime has direct costs to the business that come from loss of business opportunity and decreased end-user productivity. Device failure notifications enable problems to be dealt with proactively, maximising device uptime and increasing end-user productivity. Proactive notification of consumables depletion, the need for device cleaning and so on can mean that downtime can be avoided or managed to a much greater level.
- **Faster response to incidents.** The use of centralised print management can greatly improve the speed with which IT can respond to printer problems. This can occur in a number of ways, including automated responses to simple alerts and alarms as well as automatic creation of trouble and repair

tickets for service desk functions. Similarly, alerts which notify IT when print supplies are low can reduce downtime, cut supplies inventory and control costs through just-in-time ordering.

- **Enhanced document security.** By implementing a device security policy, which offers levels of authentication and privacy, print management solutions can safeguard the print infrastructure against unauthorised users.
- **Reduced environmental impact.** A managed print environment results in less wasteful printing practices, particularly when secure printing is utilised, as it helps avoid the problem of unclaimed output remaining in output trays, only to be disposed of by other users. An optimised device fleet, where devices are utilised efficiently, also ensures that devices are not idle for long periods of time, but are placed into a heavy “sleep” mode when not being used, and therefore not consuming large amounts of energy.

5 Case study: Turismo de Portugal

Reporting to the Portuguese Ministry of Economy, Innovation and Development, Turismo de Portugal is the central public authority responsible for the promotion, enhancement and sustainability of the country’s tourist activities. Turismo de Portugal has over 700 employees based at its headquarters in Lisbon, at 17 schools that run tourism-related courses and at ten casinos where its inspectors monitor and control gambling to ensure compliance with legislation. Of these, 635 staff require print facilities and the organisation’s printers are also used by 2,500 students.

3.1 Business challenge

Turismo de Portugal suffered from a disjointed and expensive print landscape of 461 machines from ten different vendors. At its headquarters there were 140 printers, including 80 different models from ten vendors; the schools had 118 machines of 70 different types from ten vendors and in the casinos there were 203 printers with 60 models, again from ten different vendors. With a ratio of more than one machine to two employees and with no centralised management, the huge variety of machines, with many different types of consumables, was expensive and difficult to maintain. Turismo de Portugal wanted to consolidate its fleet, centralise management and cut costs.

Its most important goals were to increase productivity with faster print speeds, decrease calls to the help desk, increase mobility through strong network integration and achieve better management and control of its print environment.

4.1 Solution chosen

Turismo de Portugal chose an HP Managed Print Services contract (MPS), replacing its 461 personal printers with 166 HP multifunction printers (MFPs). The printers are on three-year leases and are fully supported by HP, which remotely monitors them for consumable levels and fault warnings using HP Web Jetadmin software. More than 90 orders for toner cartridges are fulfilled each month, usually the next day, and Turismo de Portugal can access reports on its print volumes, toner usage and many other aspects of the print environment through a dedicated web portal.

It also uses the HP Universal Printer Driver (UPD), which gives instant access to a range of HP print devices without the need to download separate drivers. This speeds up and simplifies the installation of new printers because the organisation’s technical staff do not have to worry about multiple drivers on its 1,000 computers. The organisation has also implemented a SafeCom pull print solution which stores print jobs on a print server and enables them to be collected at any printer in any location on the network. Users swipe proximity cards to authorise their jobs and uncollected jobs are deleted from the print queue, reducing paper wastage and ensuring confidentiality.

5.1 Benefits gained

Overall print costs have been reduced by more than 20 per cent, which has been re-invested to improve the productivity of the department. Pull printing and the imposition of default mono and duplex print have brought significant reductions in paper usage. The use of HP’s MPS has led to total annual savings of over €250,000 (\$338,000), with annual paper usage decreasing by 1.2 million sheets. Outsourcing printer maintenance to HP has enabled the organisation to reduce its in-house technical support staff, bringing a

saving of €9,000 (\$12,000) a month. HP has also taken over the help desk, which used to generate approximately 12 calls a day, resulting in a further saving of approximately €2,700 (\$3,600) a week. Turismo de Portugal now has the freedom to concentrate on its core business, which is to strengthen tourism as a core growth engine of the Portuguese economy.

6 Conclusion

Lower costs, higher security and stronger sustainability are high on the agenda for every business. Effective print management can have an immediate impact on all these areas, enabling organisations to keep track of print-related activities on the network, automatically enforce rules, authenticate users, protect sensitive documents and reduce wasted paper and toner. A simplified print infrastructure can increase operational efficiency by reducing the time spent solving problems, freeing IT staff to focus on growth initiatives. When businesses have access to a greater portion of its IT budget and staff, it can retain and grow its IT infrastructure, aligning it with the business goals of the company. This increased infrastructure flexibility can help a company rapidly respond to new opportunities and challenges.

As print infrastructures become increasingly complex, managing and supporting printing is a major challenge for businesses of all sizes. Many companies aren't sure how many printers are on the network, what type of devices are connected, and how those assets are being utilised over time. In addition, the complexity of managing printing increases with more devices on the network, as well as the need to consider the cost of colour printing, security challenges, and regulatory compliance. Further, as the number of devices increases, so do support and maintenance responsibilities. Therefore Quocirca recommends that businesses should seriously consider the use of a managed service or tools to better manage the print infrastructure. Midmarket organisations should not have to employ the IT skills or resources to manage printing effectively internally and even companies large enough to have some in-house IT support can better spend their resources on strategic IT initiatives than on managing low-level printing functions.

Operating a cost effective, reliable and secure print infrastructure goes beyond simply passing control to a third party. Advanced print management solutions such as job accounting, document capture and routing solutions are the key enabler to aligning printing with business processes and providing the visibility needed at all points in the document lifecycle—from creation to production. Ultimately, a managed print environment is good for the business and, with the right tools, an organisation can use it to improve employee productivity, increase IT effectiveness and ultimately build competitive advantage.

References:

1. *Quocirca has published two further papers in this series: "Tackling print costs in the midmarket" and "Think Print, Think Security" can both be downloaded from www.quocirca.com*
2. *Unpublished Quocirca MPS adoption research amongst SMBs*

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- Business intelligence and reporting
- Communications, collaboration and mobility
- Infrastructure and IT systems management
- Systems security and end-point management
- Utility computing and delivery of IT as a service
- IT delivery channels and practices
- IT investment activity, behaviour and planning
- Public sector technology adoption and issues
- Integrated print management

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