

Creating a print intelligent enterprise How better management of printing can create business value

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Whilst many organisations have invested resources in managing their IT infrastructure, few apply the same strategic focus to the document output environment. This can represent a huge cost drain, estimated to represent between 1% and 3% of total revenue. A managed and optimised print environment will lead to significant cost reductions whilst improving productivity and boosting any organisation's green credentials.

- **A typical printing and imaging environment is a mix of old and new hardware and software which is costly and complex to manage**
Purchasing and ownership of printing and imaging devices is often fragmented across lines of businesses, departments and locations meaning that little attention has been paid to the overall needs of the business. Consequently, businesses own a complex and diverse mix of products, software and underutilised devices leading to high operating and maintenance costs as well as strained IT resources.
- **Most organisations have no idea how much they are spending on printing and imaging**
Few organisations realise the true cost of ownership (TCO) of their printing and imaging fleet. This not only relates to direct costs such as hardware, supplies, maintenance and IT support but also indirect costs such as loss of employee productivity due to device downtime.
- **Conducting a formal assessment of printing and imaging infrastructure provides an understanding of current costs and enables planning for better optimised device deployment**
Such an assessment should cover a study of usage behaviour, business workflows, device ratios and the direct and indirect costs associated with owning and running printing devices. It aims to determine an optimal balance of devices that minimises costs and maximises employee productivity. It is estimated that optimising the print infrastructure through conducting a document assessment can reduce annual spend on printing by up to 30%.
- **Printing needs to be considered an integral part of the IT infrastructure**
Due to their network connectivity, office printers and multifunction peripherals (MFPs) are susceptible to the same risks as any network PC or server. With regulatory compliance, downtime and security vulnerabilities high on the agenda companies need a standard, consistent and proactive approach to managing their printing and imaging devices.
- **Print management tools should be used to manage, monitor and control output devices**
Such tools offer a myriad of features such as remote configuration, access control, troubleshooting and proactive supplies management as well as document cost accounting. This is fundamental to ensuring the print environment is not only well managed but can also be optimised through a better understanding of device utilisation.
- **Many organisations have yet to exploit the cost and productivity benefits of using versatile networked multifunction peripherals (MFPs)**
Today's networked MFPs, which combine printing, copying, faxing and scanning, offer powerful document capture, distribution and management capabilities. However, these devices are often not being used to their full potential.
- **Organisations can reduce the headache of managing print by turning to managed print services**
A managed print service provider assumes responsibility for the management of the print environment and can handle the full gamut of activities including assessment, asset management, preventative maintenance, device upgrades and supplies replenishment.

REPORT NOTE:

This report has been written independently by Quocirca Ltd in conjunction with HP.

During the preparation of this report, Quocirca has spoken to a number of suppliers and customers involved in the areas covered. We are grateful for their time and insights.

Conclusion

By taking control of their print assets, organisations can achieve cost savings, boost employee productivity and improve document workflows. It is vital that organisations use the expertise of a third party supplier to identify potential cost savings opportunities and develop a plan to create and maintain an optimised printing environment.



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1. Introduction

As IT environments continue to grow in complexity, many organisations are focusing on managing and rationalising a diverse infrastructure of applications, hardware and storage across many locations and an increasing number of users. The rising threats associated with network and software security, along with managing the growth of networked and mobile devices, makes the task of managing a distributed and multifaceted IT infrastructure ever more challenging. Whilst organisations are concentrating on these core elements of the IT environment, few are giving the same strategic focus to the printing and imaging environment, which is an essential component in most organisations' document workflow process.

The office printing environment has undergone a significant change in recent years, characterised by a convergence in technology. Standalone photocopiers are being replaced by networked digital copiers, while fax machines have largely given way to scanning and email. Despite the use of digital communications, the paperless office has failed to materialise as email and Internet usage has increased, rather than diminished, the levels of printed output. Printed volume in the office is also being driven by the increased demand for colour output as the affordability and performance of colour printing devices means they are no longer confined to specialist applications. As a result, many businesses are using in-house production printers to print material that would have previously been fulfilled by external print houses. Added to this, the increased sophistication of today's multifunction peripherals (MFPs) in terms of scanning and storage capabilities enables them to be used as an integral network hub for document creation, distribution and storage.

Consequently, an organisation's printing and imaging environment is often a heterogeneous mix of old and new technology which is complex and costly to maintain. Typically, ownership and management of printing and imaging devices is fragmented as, historically, copier devices have been procured by facilities management and networked MFPs are purchased and managed by IT departments. This fragmentation also occurs across lines of business, workgroups and countries leading to a mix of products, supplies, software and protocols, not to mention many devices being under or over used. On top of all this, few organisations have document tracking systems that accurately measure the true usage for print, scan, fax and copy output. Networked printing also raises security issues—not only are printed documents a potential source of data leakage, many devices also store information in memory or hard disk which poses further risks to document security in this age of governance and compliance.

An uncontrolled printing and imaging infrastructure can leave an organisation exposed to more waste, higher costs, lower productivity and increased risks. Businesses can regain control of this through effective print management and assess the growing complexity and cost of managing heterogeneous office print environments. This means achieving an optimum and balanced mix of printing and imaging equipment, efficient network controls and improving workflows to minimise the amount of paper produced. This paper explains how adopting an intelligent approach to print management can create a platform for improved productivity, reduced costs and ongoing efficiencies.

2. An uncontrolled printing environment

Many organisations simply do not know what their printing and imaging infrastructure is costing them. There are several reasons why there is so little control:

- **Fragmented ownership**
It is not uncommon for the responsibility to acquire, deploy, support and supply these devices to be split among IT, facilities, procurement, departments, individual buildings or even individual users. While each group has its own specific focus—IT may specify devices and procurement negotiate costs—there is no single group taking charge and purchasing decisions are often made without attention to overall business needs.
- **Device variety and proliferation**
Fragmented ownership often means that offices are filled with a range of printers, copiers and MFPs, many of which may be underutilised, printing fewer pages than they are able to and standing idle for large parts of the day. However, organisations continue to invest in new devices which results in a poorly deployed fleet of printers, copiers and multifunction devices which may be inefficient in delivering the functionality required to support business needs.

Device proliferation also leads to a wide range of models, manufacturers and printer drivers that creates support headaches for helpdesk staff and space problems for the extensive inventory of spare parts and consumables. Consequently, organisations often have far more devices than they need and are unable to track how many devices they have—particularly locally connected and standalone printers. Device proliferation also poses security risks as unmanaged networked printers and MFPs are open to the same security vulnerabilities as any other networked system.
- **Spiralling costs**
Few organisations have a true understanding or insight into the costs associated with their printing and imaging environment. Added to this, the running costs of devices (consumables, maintenance, service, etc.) are normally paid by individual departments with little centralised control. The inability to track these running costs cross-departmentally means that a significant portion of the total costs are uncontrolled and unknown.

- Lack of print management tools**
 Few organisations have the software tools to enable them to track, monitor, audit and control their print environment to reduce waste, optimise performance, guide the purchase of new devices and make the most of existing ones. As a result, much of the cost of printing remains invisible.

There is a tremendous opportunity for businesses to reduce costs and improve productivity by gaining a better insight into the costs associated with managing the printing environment. By leveraging print management solutions and partnering with a third party supplier, organisations can quantify the total cost of their current print environment and develop an optimised environment which is less complex, easier to manage and offers improved end user functionality.

3. The hidden costs of printing

The total cost of ownership (TCO) considers not only the upfront purchase price but also the running costs, environmental impact and support costs. As we move towards more graphics-intensive printing, it is becoming even more imperative to look at the total cost of running networked printers and MFPs.

TCO for printing and imaging can be broken down as follows (percentages are a Quocirca estimate, based on knowledge of the markets and existing printer/MFP usage patterns):

Direct costs (50%)	
Hardware (5%)	Initial acquisition cost along with additional costs for hardware upgrades such as finishing products (stapler/bookbinding units), memory, hard disks, high capacity input trays and print servers.
Operating Costs: (45%)	
Consumables	Paper, toner, ink cartridges, drum units.
Mono versus colour costs	Colour usage can add significantly to overall costs where a pay-per-use or utility payment model is used. For example, where contracts are based on expected mono page prices, colour prices may be underestimated leading to increased costs when colour usage exceeds the contracted volume.
Operator intervention	A measurement of the cost a company allocates to the time it takes an operator or helpdesk employee to replace paper/toner/other user replaceable items.
Network management/administration	The cost of installation and configuration of devices as well as other print related network management tasks.
Service	This includes both the cost of service and service levels impacting device uptime.
Power and infrastructure	Running a printer or MFP can consume a significant amount of electricity, because they are often not powered down when not required. Costs here also relate to physical space for locating devices.
Indirect Costs (50%)	
Support costs	Maintenance contract costs, warranty/support costs, costs of unused assets, help desk costs, hardcopy device maintenance, facility management, etc.
End user productivity	Time spent by staff filling paper trays, changing toner cartridges and drums, ordering replacement supplies, dealing with waste and standing around waiting for prints to finish. Downtime due to lack of device availability also reduces productivity. This can be through having to look for alternative devices, longer wait times at other devices and also a slowing of business processes that rely on printed output.

Document accounting tools and usage data can help to accurately establish current costs, and apply best practices and standards to better control costs, whilst also maintaining or expanding capacity to improve end user productivity.

4. Productivity boost with multifunction peripherals.

MFPs are becoming an integral part of the IT infrastructure due to their network connectivity and enhanced document capture and management capabilities. In many cases, an MFP can accomplish printing and imaging tasks such as copying, scanning and faxing better, faster and more economically than single-function products. Sophisticated scanning capabilities enable documents to be emailed direct from the device and paper documents can be digitally captured and integrated into a business process workflow. As such an MFP can act as an “on-ramp” to capture documents and integrate with digital workflows and “off ramp” to retrieve and print documents as required.

Case study – Allens Arthur Robinson (AAR)

Business challenge

With more than 1,500 employees in eight countries across the Asia/Pacific region, Allens Arthur Robinson (AAR) is a leading international law firm specialising in all commercial issues. AAR were faced with the task of replacing an ageing fleet of printers and photocopiers, from a variety of vendors, which lacked the usability features needed to maximise staff productivity, with some machines having produced more than two million pages.

Approach

After reviewing its entire print and copy requirements across its offices, AAR issued a request for proposal to a number of printer and photocopier companies. Working closely with AAR, HP completed a thorough assessment of the printing and copying requirements of the firm and determined the most appropriate hardware for the job. Through careful selection of devices, activities were centralised, thereby reducing both the total number of machines needed and the maintenance they required.

Solution chosen

HP rolled out a fleet of dedicated printers and multifunction devices across AAR’s Australian and international offices. Harnessing HP’s Managed Print Services capabilities, the firm has standardised its entire print and copy functions through device consolidation by the replacement of stand-alone printers, photocopiers, fax machines and scanners with new multifunction devices. Web Jetadmin is used to track and print copy activity in each office and also orders consumables as each machine approaches the time they will be needed.

Business benefits

AAR estimates the new HP print and copy infrastructure now in place is saving the firm between 20 and 25 per cent annually on its previous costs. The speeds at which long documents can be printed, and also the finishing solutions, such as copying and stapling, available at the time of printing from the PC, have meant staff can routinely produce 100-page documents from their desks. This saves significant time as they no longer need to make use of one of the firm’s dedicated print production facilities. Staff have also saved time previously wasted standing in queues at printers and copiers waiting for the equipment to be free and jobs to print. HP’s Web Jetadmin also gives improved visibility into asset utilisation by identifying which devices should be relocated where appropriate to match staff demands.

MFPs can be used to reduce costs, increase productivity and improve workflow in the following ways:

Reduced costs

- MFPs require fewer consumables, reducing total cost of ownership, storage requirements, and service interruptions.
- Directing output to MFPs eliminates the management and expense of multiple unrelated personal printers. MFPs can displace more expensive devices, remove older, less reliable devices and reduce overall toner, maintenance, space and utilities costs.
- Using MFPs to eliminate stand-alone fax machines reduces the number and cost of phone lines and the need for fax modems on individual PCs.
- Using duplex, booklet, or multiple images per page printing reduces both paper and toner/ink consumption.

Enhanced functionality

- Scan-to-email and scan-to-file functionality means that MFPs can be used as a document capture device, enabling paper dependent processes to be integrated with business workflows.
- Document finishing: Production MFPs can be used to ‘finish’ documents, including booklet making, binding, stapling, hole-punching, folding and stacking. This enables professional documents to be created in-house instead of using more expensive outsourced print bureau services.

Security and Compliance

- MFPs offer a range of security features designed to safeguard confidentiality and support regulatory compliance with document, device and data security features. Documents can be encrypted and printed or scanned securely with password control. Access to the device can be simply controlled by user ID or with comprehensive network authentication.

Typically, all user activity can be logged and monitored, providing administrators a full document audit trail in order to satisfy legislation such as the Data Protection Act.

Increase productivity

- Workgroup and department MFPs offer a wider range of functionality to users such as advanced scanning features as well as extensive paper-handling and document-finishing capabilities, as detailed above.
- Compared to single function devices, MFPs are subject to less idle machine time and consolidation means fewer devices to install, manage and service as well as a smaller inventory of supplies and spare parts to maintain.

Ease of management

- Ease of management, both within single locations (fewer devices overall and less diversity of device types to maintain) and remotely across locations (for example branch office print management).
- Using MFPs reduces the number of assets being managed and the supplies required. This can translate into fewer staff needed to manage multiple vendor contracts for hardware and supplies.

5. Print management is an essential IT activity

The rapid pace of change in today's globalised business environment means that technology has to support business needs by being flexible, scalable, available and easily managed as well as improving business efficiency and reducing costs. Consequently, many organisations have embarked on IT consolidation projects to contain costs and improve efficiencies such as server virtualisation, storage consolidation and network integration.

When it comes to device management, the management of distributed PCs and servers would be unthinkable without centralised systems management technology for monitoring performance, delivering updates and diagnosing and fixing problems remotely. This proactive approach to IT infrastructure management reduces network or application downtime as well as addressing compliance needs.

Print management solution checklist

The following features should be considered when evaluating a print management solution:

1. Ease of use

Overall the software should be easy to obtain and install and offer a simple way to discover and configure devices remotely.

2. Fleet deployment

It should be easy to quickly locate peripherals and understand their capabilities. Device discovery should also enable the user to locate devices based on criteria such as model or capabilities, and it should be simple to add new network connected devices. It should be possible to remotely install and configure peripherals and manage driver software and download firmware updates for multiple devices at the same time.

3. Proactive management

For business continuity, proactive management can minimise device downtime from hardware failure or supplies replacement. The capability to configure alerts and status updates to enable proactive fault detection and error notification means that technical staff can resolve issues before they become problems.

4. Security

A print management tool should protect both devices and documents against unauthorised access. Devices can be secured by controlling access at a group, user or policy level controlling access to features such as colour printing. For a higher degree of security, PIN and "pull printing" may be supported natively by the device or by third party solutions. This user authentication enables print jobs to be saved electronically in the device, or on an external server, until a PIN code is entered by the authorised user at the printer.

5. Reporting and document accounting

To gain an accurate insight into printing costs it is necessary to have the capability to analyse detailed and total activity reports which show who produces the most output, which devices are most heavily used or where problems typically occur. Features which enable users to track colour usage are also useful in helping minimise costs and redirecting print jobs to more cost effective devices.

6. Flexibility

For ease of integration, a print management tool should integrate easily into an organisation's existing IT environment. It should also be scalable so that it can be deployed across more locations and provide support for a multivendor product environment.

Yet these good practices in consolidation and IT infrastructure management are not reflected in the management of networked printing and copying devices. Many organisations may have a desktop or server strategy, but few have a printing and imaging strategy. This is a significant oversight as devices such as networked multifunction peripherals (MFPs) are no longer "peripheral" to

business processes, often serving as a document hub for sophisticated document management solutions. Further, their network connectivity means that MFPs and networked printers are susceptible to the same risks as PCs or servers and should be treated in the same way through robust management tools.

Print management products offer a diverse set of capabilities including analysing and optimising device utilisation, controlling colour costs, securing devices, proactive supplies management by enabling remote configuration, proactive monitoring, security, troubleshooting, and reporting of printing and imaging devices. Print management not only enables an organisation to understand the costs associated with their printer fleet but also minimise downtime and improve device utilisation to ensure higher user productivity.

Most print management tools from printer and copier vendors, such as HP Web Jetadmin and Xerox CentreWare, are available for free and also support multivendor products. However, competitor product support tends to be limited in comparison to the product features that are available for the vendor's own products. In contrast, companies such as Equitrac and Print Audit have partnerships with printer and copier manufacturers enabling them to offer more complete vendor-neutral print management. Because of this more extensive support for multivendor devices, along with comprehensive assessment and cost recovery features, these third party print management tools are sold on a licence basis.

6. Moving to an optimised printing environment

An optimised printing and imaging environment is one that achieves a balanced deployment of imaging and printing devices—from single user to shared devices, from single function to MFPs, with the aim to maximise employee productivity and reduce cost. This can improve printing performance and optimise cost whilst dramatically increasing device utilisation, return on investment and productivity by moving advanced functionality closer to users.

1. Evaluate the current environment

Through a print audit or assessment, an organisation can gain an understanding of the total cost of ownership (TCO) associated with purchasing, owning and using printing and imaging technologies, including initial and ongoing costs such as supplies, maintenance and support. These assessments can range from a basic online form to more consultative on-site engagements with vendors or channel partners. Assessments can be broken down into the following categories (based on Infotrends categorisation):

- **Level 1**
Assessments conducted internally using either manual or automated tools for measuring output. Many vendors now provide this type of assessment through a free online tool. It is limited in scope and focuses on the total number of devices under consideration in an office, the retail costs of supplies for those devices, together with a speculative estimate of the total monthly volume of pages produced. Level 1 analysis generates a preliminary understanding of the cost per page (CPP) for devices based on specifications and usage.
- **Level 2**
Level 2 assessment is performed by third party consultants who combine basic company data with secondary research to give a view of the “current state” costs. This approach is more sophisticated than a Level 1 assessment as it offers more granularity by providing a more specific analysis of document output costs and how these compare to similar organisations in terms of operating efficiency. This type of assessment is suited to smaller sized companies who need a general view of the cost of their printing infrastructure whilst minimising their initial investment.
- **Level 3**
This is the most sophisticated and involved level of document assessment, which can take between a few weeks to three months to conduct. A Level 3 assessment uses both primary and secondary data to give a comprehensive view of an organisation's current costs and offer advice on a recommended future state. As a consequence, this type of assessment is also the most expensive and requires a high degree of collaboration between the user organisation and the assessment provider.

2. Streamline document intensive workflows

Adopting a document lifecycle approach examines each step in the document workflow process, assessing where paper documents can be integrated with electronic processes. Many business processes still rely on paper, as it is often the preferred medium for reference, portability and for sharing in face-to-face discussions. Paper is also often kept for legal requirements as well as long term archival. Transforming paper-based processes with digital workflows enables business documents to be quickly and easily stored, retrieved and delivered.

Leveraging existing MFPs, or investing in new MFP technology, as a means of document capture and distribution, enables the full value of these devices to be exploited. Most MFPs are compatible with leading document management applications and also often have their own embedded document capture and distribution capabilities.

3. Optimise the infrastructure

Once the ideal resource model and document workflow has been established, the next stage is to develop an optimised printing and imaging infrastructure. A balanced deployment model aims to strike a balance between maximum productivity and minimum cost. In a maximum productivity model, there may be an all-in-one device on every employee's desktop. Although more costly, this deployment strategy can be appropriate for employees such as law firm executives whose time is valuable. At the other end of the scale is the minimum cost deployment model, which is based on a centralised deployment strategy using high performance departmental MFPs. While this model does save the most money, this strategy can create employee dissatisfaction when employees have to walk a long distance or wait in a queue—and can consequently lead to ad-hoc purchases of personal printers again.

A balanced deployment approach considers user needs and the impact on their productivity, aiming to provide a mix of personal, workgroup and department class printers and MFPs along with software and services that can satisfy users and can be easily configured and managed by administrators.

4. Manage the environment

The optimised printing and imaging environment must be monitored and managed on an ongoing basis to ensure that it continues to deliver maximum efficiency and cost-effectiveness. Implementing a print management solution to monitor usage and performance is critical to ensure that networked printing and imaging devices are operating efficiently, and so that problems are detected before they interfere with user productivity.

Organisations should take a phased approach to a managed print environment that starts small and scales as required as there is no "one-size-fits-all" approach. What is fundamental to this process is obtaining the acceptance from the relevant business groups—including facilities management and IT. Critical success factors include addressing the natural resistance to change that end users may feel regarding consolidated devices. This requires educating staff as to how and why changes will be made, and explaining how productivity improvements will benefit them and the organisation.

Assessment objectives

An assessment of the print environment aims to answer the following questions:

Resources

- What is the current mix of devices in the environment (how many printers, copiers, fax machines, scanners)? How many devices are there?
- What is the ratio of devices to users?
- Could some of the devices be consolidated into multifunction products that combine printing, copying, faxing and scanning?
- Where are the devices located in relation to the people who need to use them most?
- How much time do users have to spend waiting because so many people share the device?
- How often do devices require break/fix service?

Costs

- How much has been invested in hardware (printers and other devices) and software (licenses, customisation, upgrades)?
- How much is spent annually on paper and supplies?
- How much does it cost to manage devices on your network?
- What are the costs for floor space for devices and for storage space for supplies?
- How much time and money is spent managing outside vendors?
- What is your annual cost for service contracts?
- What is your annual cost for internal help desk assistance with printing and imaging?
- How much electricity is used by the devices?

Case study – Brunel University

Business challenge

Brunel University is located in Uxbridge, to the west of London in the UK, and is well known for pioneering courses in science, engineering, technology and the social sciences. Its ageing printer fleet was failing to meet student expectations due to poor reliability, inflexibility and lack of control, which was also contributing to rising costs and increased paper waste. Brunel University wanted a reliable and efficient print and copy environment that was easy to manage and met the service level expectations of its students. Their current fleet also did not support a universal swipe card required to create a controlled system for students to print, copy or scan at a single location, which was both inconvenient and time consuming for students.

Approach

Having assessed the limitations of their current print environment, Brunel University asked a number of companies including HP and Preferred Partner™, the DTP Group, to tender solutions to address these problems and replace its ageing printer and copier fleet.

Solution chosen

HP proposed a Managed Print Services (MPS) solution. The university does not pay for the hardware but simply pays a fee whenever a device is used. A range of HP LaserJet and HP Color LaserJet Multifunction Printer (MFP) devices have been deployed which offer scan-to-email functionality and are armed with SafeCom software which offers confidential printing through a single swipe card. HP Web Jetadmin proactively monitors the level of toner and, when appropriate, notifies the university's staff when a device requires a new toner or ink cartridges. In the past, refilling empty cartridges with toner was time consuming. Service support and hardware supplies form part of the package.

Business benefits

Brunel University now has a modern, efficient and reliable print and copy environment that can satisfy the service level expectations of its customers, the students. The print and copy environment is less expensive to run and the HP MPS solution is forecast to lower the total cost of ownership (TCO) appreciably. Students can no longer send material to several printers thereby creating unnecessary copies. End-user productivity is also improved as all document functions can be performed at a single machine by using a single swipe card. IT administrators are benefiting as the HP MPS solution ensures there is less maintenance and the HP Web Jetadmin software ensures devices are never short of toner.

7. Managed print services: passing the print gauntlet

As organisations have realised the scale, complexity and escalating costs of their printer usage, many have decided that managing the printing infrastructure is best handled by an outside specialist. These specialists may be the printer or copier manufacturer, specialist managed print providers or channel partners, who are able to provide an outsourced service to reduce the costs related to owning a diverse and complex printing and imaging environment. Through consolidation of existing equipment, management of supplies and ordering and remote print management, businesses not only benefit from financial savings but also improved customer satisfaction and improved productivity.

As with any outsourcing activity, services can be tailored to the business requirements and can include some or all of the following elements:

- **Document assessments**

Document assessments must be the starting point for optimising an organisation's office print environment. An effective assessment can analyse the actual costs of printing and device ownership to establish a baseline spend. The assessment should then offer a strategy for how to achieve cost savings through rightsizing the printer fleet and adapting document workflows.

- **Utility based pricing models**

The traditional method of purchasing printers is typically a pay-as-you-go model where consumables are purchased as required. Increasingly, printers are now being sold using a usage-based cost model, similar to the click-charges traditionally offered by copier companies. Cost-per-page schemes aim to tell the customer upfront what the cost of printing will be each month, and can cover everything from the equipment, consumables, maintenance and help desk support as well as reporting usage through device management software.

For example, a "pay-per-page" approach establishes a monthly price for a minimum predicted volume of pages. Different page costs can be defined; the first is the cost for each page (colour and mono) up to and including the minimum volume (for example €0.06 per colour page for a minimum volume of 12,000 pages will give a monthly cost of €720, even if only 10,000 pages have been printed). The second page cost is called the overage and is the cost for each page beyond the minimum volume count. Pricing structures vary in detail as minimum page volumes and payment options differ across vendors—for instance some vendors offer a fixed price per page across all print volumes.

Given that a pay-per-page scheme is based on estimated print volumes, businesses should ensure that they have an accurate understanding of the monochrome and colour printing volumes and also the devices they are using. For example, using a colour printer in low colour-usage environments can be an expensive option as black and white page costs are typically high on colour devices. Similarly, low volume, low colour users will not generate the minimum volumes, so, again, a pay per page approach may be an expensive option.

- **Multi vendor device management**

With most organisations owning a complex mix of multi-vendor products, often across many locations, an outsourced provider should be able to manage all aspects of a multivendor environment. Sometimes it may not be the most cost effective solution to consolidate on one vendor, so, where necessary, the outsource provider should be able to manage a multi-vendor environment. This offers a single point of contact and accountability for negotiation, procurement and management of multiple service contracts.

- **Ongoing management**

This covers device discovery, monitoring and usage where the outsourced provider can take control of functions such as device configuration, print driver and queue management, user based job tracking, software version control and so on.

- **Workflow**

Beyond managing the print environment, managed print services providers can also focus on the entire document management process. This can involve the transition of paper-bound business processes to digital as well as integrating paper processes with electronic business processes.

- **Remote monitoring**

Pre-emptive support and continuous monitoring are both part of ensuring business continuity through improving device uptime, and a pre-emptive support model drives device uptime and reliability and, ultimately, increased user productivity. For instance, proactive break-fix services reduce calls to the help desk and free IT staff and end-users from the support process so they can focus on their core competencies. Most vendors offer an extended helpdesk facility dedicated to print related problems, as well as regular monitoring and reviews of the print equipment. Extra services include placing staff on site within the business to help with reconfiguration of machines and to re-establish the correct printer layout when staff increases or reductions occur.

- **Change management**

The technical and cultural impact of creating an optimised print environment should be taken into account through a change management plan. An outsourced provider can create a change management plan that addresses communications, training and support to help ensure a smooth implementation and employee transition of new printing practices.

Benefits of outsourcing print management

Reduced costs

- Transparency through “pay-as-you-go” or “per-page” pricing gives total visibility into document production costs.
- Leasing printing equipment also gives access to latest devices which means money is not tied up in hardware and budgets can be planned in advance.

Simplicity

- A managed print services provider offers a single point of contact and accountability for device management, service and supplies.
- Consolidated, regular billing that includes services and consumables for all managed devices simplifies reconciliation and accounting processes and provides an insight into actual print costs.

Increased employee productivity and satisfaction

- Employees benefit from increased uptime, onsite response to emergency problems and automatic restocking of printer supplies. This leaves staff to focus on core competencies and mission-critical tasks.

Enhanced security and compliance

- A managed service provider can identify the relevant risks and recommend solutions that enhance privacy and provide audit trails which report print usage.

Case study – Autogrill

Business challenge

Autogrill Switzerland Ltd. is the Swiss subsidiary of the international Autogrill group headquartered in Italy. Autogrill operates food and beverage outlets for travellers at airports, railway stations, motorways and shopping malls. In Switzerland, Autogrill had printers and copiers from nine different vendors in 34 locations around the country. Each outlet ordered its own hardware and signed its own service and supply contracts. The cost of this approach was high, not only for the hardware but also the service and supplies. Autogrill also had click contracts in place to pay for every copy made. To avoid continued high spending, Autogrill decided that it needed to consolidate its printing and copying infrastructure with one vendor.

Approach

Autogrill looked at what was available from a variety of vendors, finally deciding on a managed print solution from HP. It signed a contract with HP partner beelk Services AG covering delivery, installation, rollout, monitoring and service until 2010. As individual service contracts run out on machines from other vendors they are being replaced with HP multifunctional printers (MFPs) and LaserJets.

Solution chosen

Autogrill uses HP's networked, monitored print solution Web Jetadmin, which gives control of the print process to the IT department. The same HP equipment is used in all locations and HP has also implemented a SafeCom solution for secure printing. In addition, HP's remote monitoring solution is used, which immediately picks up problems such as low toner alerts and alerts the channel partner.

Business benefits

Autogrill was able to improve its return on investment due to the consolidation of hardware, supplies and service in a single contract with a single vendor. Remote monitoring also freed staff from having to worry about handling printer breakdowns and printing supplies. It has also meant that replacing old printers and copiers with MFPs has enabled Autogrill to do away with personal printers, scanners and faxes.

8. Conclusions and recommendations

Organisations face a number of challenges in respect to their printing and imaging environment. Escalating unknown costs, underutilised assets, limited IT resources, the shift towards colour printing and regulatory actions driving new document workflows all contribute to complicating the task of managing document output. Any IT investment must create business value, while minimising risk and cost, and print management is vital for organisations to understand printing costs to reduce both the financial and environmental impact associated with an uncontrolled printing environment.

Adopting an intelligent approach to managing printing through the optimal deployment of printing devices can benefit an organisation in many ways. Time, money and resources are no longer wasted due to inefficient printing and copying, cost control tools ensure visibility on document costs and document security is enhanced through confidential printing capabilities. Employee productivity can be boosted through ensuring higher availability of more efficient devices and print management tools can simplify the administration of the printer fleet, reducing the demand on helpdesks.

The complexity of managing the printing infrastructure can be addressed by taking a managed services approach. Today the outsourcing of non-core functions is becoming more commonplace as organisations recognise the importance of focusing resources on core competencies. Managed print services can offer an organisation an enterprise-wide printing strategy by taking control of all aspects from procurement, management and maintenance support.

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. Whether printing is managed in-house or outsourced to specialists, it is essential that organisations take the first step and assess their printing environment, together with their suppliers or third party partner, to fully understand the savings that can be made through adopting an intelligent approach to managing printing.

About HP

HP focuses on simplifying technology experiences for all of its customers—from individual consumers to the largest businesses. With a portfolio that spans printing, personal computing, software, services and IT infrastructure, HP is among the world's largest IT companies, with revenue totalling \$104.3 billion for the four fiscal quarters ended Oct. 31, 2007. More information about HP (NYSE: HPQ) is available at <http://www.hp.com>.



About Quocirca

Quocirca is a primary research and analysis company specialising in the business impact of information technology and communications (ITC). With world-wide, native language reach, Quocirca provides in-depth insights into the views of buyers and influencers in large, mid-sized and small organisations. Its analyst team is made up of real-world practitioners with first hand experience of ITC delivery who continuously research and track the industry in the following key areas:

- Business process evolution and enablement
- Enterprise solutions and integration
- 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

Through researching perceptions, Quocirca uncovers the real hurdles to technology adoption – the personal and political aspects of an organisation's environment and the pressures of the need for demonstrable business value in any implementation. This capability to uncover and report back on the end-user perceptions in the market enables Quocirca to advise on the realities of technology adoption, not the promises.

Quocirca research is always pragmatic, business orientated and conducted in the context of the bigger picture. ITC has the ability to transform businesses and the processes that drive them, but often fails to do so. Quocirca's mission is to help organisations improve their success rate in process enablement through better levels of understanding and the adoption of the correct technologies at the correct time.

Quocirca has a pro-active primary research programme, regularly surveying users, purchasers and resellers of ITC products and services on emerging, evolving and maturing technologies. Over time, Quocirca has built a picture of long term investment trends, providing invaluable information for the whole of the ITC community.

Quocirca works with global and local providers of ITC products and services to help them deliver on the promise that ITC holds for business. Quocirca's clients include Oracle, Microsoft, IBM, Dell, T-Mobile, Vodafone, EMC, Symantec and Cisco, along with other large and medium sized vendors, service providers and more specialist firms.

Sponsorship of specific studies by such organisations allows much of Quocirca's research to be placed into the public domain at no cost. Quocirca's reach is great – through a network of media partners, Quocirca publishes its research to a possible audience measured in the millions.

Quocirca's independent culture and the real-world experience of Quocirca's analysts ensure that our research and analysis is always objective, accurate, actionable and challenging.

Quocirca reports are freely available to everyone and may be requested via www.quocirca.com.

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The logo for Quocirca, featuring the word "quocirca" in a lowercase, sans-serif font. The letters "qu" are in blue, "o" is in red, "c" is in black, "i" is in red, "r" is in black, and "ca" is in black.