

**Controlling printing used to be a largely manual task. Now, there is a widening range of tools to enable an organisation to automate the process.**

# Tooling up

**M**anaging printing seems almost like a contradiction in terms. For many IT directors, it is the ultimate devolution of power, with every PC able to print to any printer it can locate on a network or attached to one of its USB ports.

While print servers and server operating systems, such as Windows, do centralise print control to some extent, printing is licensed anarchy for most organisations. This shows up in the bottom line, with analysts Gartner suggesting that between 1% and 3% of revenue in any organisation is spent on printing. Printing is arguably one of the biggest unacknowledged, unaudited costs in most organisations.

However, print management software and hardware is becoming increasingly widely available. At the very simplest level, the free print management software provided with most printers can provide valuable insight into the daily running of printers, their various statuses and their use – far more than with the machines supplied just a few years ago.

Xerox's CenterWare, for example, is bundled free with most of its mid-range and high-end workgroup printers. Its features include the ability to update firmware and install software on a whole fleet of printers, as well as monitor those printers and send messages to their users when, for instance, the printer is out of paper.

"The great thing about these tools is that they're free," says Angus Goble, document integration manager at Computacenter. "You don't spend any money apart from the cost of deploying. But if I'm an IT

administrator, I can gain an understanding of the infrastructure and I can monitor printers."

Most organisations, however, only deploy these tools at a departmental level rather than at an organisational level, where the greatest benefits could be enjoyed. Such tools also aid outsourcing of printer management, which is becoming an increasingly important activity for organisations such as Xerox Global Services.

With the outsourcer able to see from a central console the state of printing across an organisation's network, it is able to manage the printers at much lower cost. Typically, one of the first things an outsourcer such as Xerox will do is to refresh the client's printer 'fleet'. This is because not all printer models from the same vendor will work with these free tools: refresh rates of printers in most organisations are now reaching five to eight years, and many are simply too old to respond to new management tools.

However, those that do can also save administrators time. "If the printer's not working and it's the right age, I can see from the utility that tray two is slightly open and it needs to be shut, rather than have someone change the toner and waste three-quarters of a toner cartridge," says Goble.

Almost all printer makers now sell their printers at a loss, making their profits up via the sale of consumables. With grey market, black market and compatible cartridges threatening to undercut these profits, manufacturers are adding increasing "intelligence" to their consumables to provide differentiation from these cheaper products.



This intelligence often comes in the form of greater manageability through the free administration tools, providing details of toner or ink levels, how much coverage each piece of paper is receiving and so on. Buying only 'intelligent' consumables may be the only way to benefit from some print management tools.

Many of these free tools can also be integrated with more mainstream systems management tools, such as HP OpenView, IBM Tivoli or Computer Associates' Unicenter. Together, they may be able to highlight printer capabilities that are not being used. Almost all workgroup printers now have duplex (double-sided) printing capabilities, for example, yet quite often they are turned off by default. Turning them on can, obviously, almost halve paper use.

For organisations that do not want to let users access certain facilities, such as colour printing, which is more expensive, customising printer drivers or the printer's own software is an option. Often, considerable savings can be generated simply by ensuring that the correct drivers are available, that they are installed with the correct defaults or they do not provide the more expensive features the printers offer.

Glen Mason, a marketing manager at Canon UK recalls a situation at his own company: "One user printed 1,673 pages of colour in a month, at a cost of £152, purely because his driver was set to colour by default. The next month we saved £128 on that, by setting his driver to black and white."

Canon offers Multifunctional Embedded Application Platform (MEAP) in its product range, a Java-based appli-

cation platform that enables organisations to change the way their printers and copiers behave. By developing suitable applications, organisations can then restrict what printers will do for end users.

However, they need to avoid being too restrictive, since this approach can often backfire, says Goble. "Users tend to find a way. I've seen organisations say they'll only provide mono to their employees – no colour. Then staff go down to PC World, buy inkjet printers at £100, the consumables as much again, and plug them into the backs of their desktops," he says.

Because the amount is so small, the cost of the device is expensed through the stationery budget and the organisation does not know anything about it. "If 200-300 people do that, it becomes an issue," adds Goble. "If these printers aren't shared on the network, which many aren't, they're invisible to management tools and only a physical inspection of desktops – or the stationery budget – will reveal their presence."

### Counting the cost

The next step is accounting. Without knowing who is printing where, it is impossible for an organisation to know what its biggest costs are or even if any kind of formal print management policy or system is necessary. Systems such as Canon's Uniflow and Macro 4's Business Information Logistics range have accounting modules that help organisations to work out how much they are spending on printing.

"You install it on a print server or on its own and it monitors all the printing via the servers as well as locally.

## PRINT MANAGEMENT SOFTWARE SUPPLIERS

Vertical	Product	Web site
Computer Associates	Unicenter CA-Spool Print Management	www.ca.com
Canon	Uniflow	www.canon.co.uk
Gandlake software	LaserServe	www.gandlake.com
HP	Web Jetadmin	www.hp.com
Lexmark	MarkVision	www.lexmark.com
Macro 4	Business Information Logistics	www.macro4.com
NearStar	DataServer	www.nearstar.com
Océ	Océ PrismaSatellite for Office	www.océ.com
Optio Software	Optio Print Manager	www.optiosoftware.com
Print Audit	Print Audit 4/Analysis	www.printaudit.com
Printronix	PrintNet Enterprise	www.primtronix.com
SafeCom	SafeCom G2	www.safecom.dk
Xerox	CenterWare	www.xerox.com

From that point, it generates a report which shows how much A3, A4 and other paper has been printed and at what price. It even records whether the document was stapled," says Canon's Mason.

Auditing software such as this is more useful once it has been in place for some time, since it can provide detail on whether print management policies are working. It can also see if certain printers are under- or over-utilised or if more powerful printers that could potentially replace several other printers would be more cost-effective. By reducing the number of printers in use, power consumption can be reduced and consumables, which can easily add up to several multiples of the hardware acquisition costs over the lifetime of the printer, can also be cut back.

By providing logins, using network addresses or other identifiers, it is possible to monitor which users or departments are using what printers. Probably more importantly, unless the organisation intends to impose quotas and strict enforcement rules on employees, is the ability to monitor the volumes and types of work passing through each printer and encourage users to use the right printer for the right of job.

"You should send the job to the biggest feasible printer – that will lower the cost per page," says Michael Brand, chief executive of the business information logistics division of Macro 4. In general, the bigger the printer, the greater its longevity; its consumables are also cheaper per page; and it can also print faster.

In contrast, desktop inkjet printers have far more expensive consumables, are slower, need more maintenance and rarely offer duplexing. A further step up from accounting software are fully fledged print management products that can take control of print jobs and send them to printers according to business rules.

Macro 4's Michael Brand says that his company's products, for example, can segment printers into zones, based on geography, capability and other features.

When a user prints a document, the system can decide for the user which is the most appropriate printer, taking into account the cost of printing on each machine, where each printer is relative to the user, what capabilities the printer needs to be able to perform the job, the kind of document being printed, which printers are available or are being under-used and so on.

To reduce the chances of print jobs being sent to the wrong printers where they may lie forgotten by the user (who may repeatedly re-print the document, mistakenly thinking the job got 'lost' or that someone inadvertently took their print-out), there are two other facilities typically available within print management solu-

Michael Brand, Macro 4



"When a user prints a document, the software can decide the most appropriate printer."

tions: "follow me" printing and "pull" printing. "Follow me" printing enables users to inform the print management software that they have changed location in the building (or even to a new site), something particularly useful for laptop users. The software can then print documents on nearer printers.

"Pull" printing takes this a stage further, by requiring the user to authenticate him or herself with the printer using a personal identification number (PIN), swipe card or even a thumb print.

This also enables the print management software to locate the user exactly and print to the right printer every time; it can also be used as a policy enforcement measure – if an organisation decides that only certain people can print in colour, they can use these unique identifiers to abort print jobs that do not conform with the company's policies.

In addition to these capabilities, most print management software has additional bells and whistles, the attractiveness of which will vary according to the organisation. Chargeback from within print auditing software is popular in legal firms, since departments can be made accountable for their printing costs.

Organisations with many printers from many different vendors may well be interested in print management software that provides a single printer driver for all jobs, since that ought to reduce administration and training costs: the user simply highlights in the universal driver the requirements of the job, such as colour, duplexing, folding, stapling and so on, and then sends it. The print management software then picks the right printer, re-formatting the job, even when the printer is unavailable, so it always prints correctly.

Print management software, by itself, is no panacea, but allied with proper management and policies it can provide a powerful tool for organisations to reduce costs. Although the initial belief may be that by imposing limits on employees' printing capabilities, print management software will make savings, in most organisations, savings are usually made through the software highlighting bad practice.

By providing insight into what users are doing wrong and pushing them to develop better habits, print management software can quickly pay for itself and help generate significant savings in expenditure. ■