**Executive Summary**

The consumer world is highly digitised and this is steadily creeping into the business world. Smartphone and increasingly media tablet users want to view business-critical information while working remotely or on the road, providing up-to-date, easily accessible and potentially seamless customer records.

A company's ability to harness the intelligence within its organisation is often the key to a successful business, improving customer satisfaction, employee productivity and competitiveness. Many companies can only see the mountain they need to climb to integrate disparate systems, many of them manual, and the investment that needs to be made to overhaul IT and telecoms infrastructure. Addressing the print device and document workflow needs of your company and improving processes does not necessarily mean a huge overhaul of existing infrastructure. There are already solutions on the market that can link disparate systems providing consistently reliable and secure solutions to meet today's and tomorrow's information needs.

This IDC White Paper explores the challenges of print and document workflow management including current technologies driving demand for improved information management solutions. It provides recommendations on solutions that support the need to better manage print-related costs and provide the key to enhanced document workflows.
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**Situation Overview**

The prolonged economic downturn has driven companies to scrutinise operational expenditure, including print-related costs, which often spiral out of control due to lack of management. However, companies also need to invest in keeping ahead of their competition through innovation. Rapid improvements in technology result in continuous competitive threats, sometimes from new market entrants that take a different approach to addressing market needs by leveraging innovation. The right technology solutions are the key to print optimisation, improved process efficiency and employee productivity, and enhanced customer services.

**IT Investment**

Although in recent years companies have been more cautious about IT investment, technology plays a critical role in a company’s ability to compete. An IDC survey examining Western European IT investment trends (see note 1 in the Sources section) highlighted the key characteristics of companies’ investment plans, which all resonate with the characteristics of print and document workflow related investments (see Table 1).

**TABLE 1**

<table>
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<tr>
<th>IT Investment</th>
<th>Print/Document Workflow-Specific Investment</th>
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<td>IT investments will be selective and budgetary scrutiny will remain tight.</td>
<td>Companies will be more cautious about print-related spending, increasingly requiring quantifiable proof of return on investment.</td>
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<td>Spending will be focused on specific needs and IT providers need to be able to address the concerns of both the IT and line-of-business decision makers, with proof of alignment to support meeting the objectives of business leaders.</td>
<td>In contrast to IT department concerns about IT responsiveness, C-level executives are more concerned about ensuring print-related investment supports efforts to achieve financial targets, develop innovative products/services, improve customer care/support services, increase employee productivity and focus more on sales activities.</td>
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<td>Key investment areas will be around the efficiency of processes and systems, the effectiveness of sales and customer-oriented functions, and flexibility both in the use of IT and in the company’s response to change.</td>
<td>Increased volumes of information, a growing mobile workforce and the need for automated services place pressure on IT to control print-related expenditure while providing enhanced business processes which provide easy-to-find access to information.</td>
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<td>Managing the data explosion and related security of information are key concerns as companies provide extended access to corporate intellectual property.</td>
<td>Providing extended information access to mobile workers and business partners raises questions about the security of company sensitive information.</td>
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Source: IDC, 2012
Maintaining and Enhancing Competitiveness: The Customer is "King"

Improvements for internal and external customers can help boost a company's competitive position and differentiate its quality of services from other market players.

Internal customers require the right tools to conduct their job and reliable systems to ensure that normal business operations and job satisfaction can be maintained. As a result, companies will experience improved employee productivity, improving revenue per head when resource budgets are limited. Today, half of enterprises adopt software applications for improved knowledge management to better help employees "search and find" critical business information (2).

External customers want to work with organisations that provide them with good service. Efficient processes can provide a single view of the customer (e.g., provide a view of all customer activity combining phone and Web interactions, special conditions to observe, reminders, etc.) and consequently help increase customer retention and recruitment rates, and improve customer satisfaction and potentially revenue per customer. 40% of Western European enterprises adopt software solutions to better search and identify information for customer-focused applications such as customer service and call centres. Customer care and its related service enhancements is one of the top 2 long-standing business initiatives, the other being "sensitive data protection" (2).

Key Print and Document Management Challenges

There are five key challenges in managing the overall print environment including document workflow processes:

1. **Identifying print-related costs and user activity.** In order to improve and maintain the efficiency of information management, a company needs to understand overall print-related costs. There is an immediate and often overlooked need as print hardware, services and consumables costs often spiral out of control because companies have not implemented and reinforced a print policy (providing employee guidelines on print practices) and have limited understanding of overall print-related costs. Without identifying print-related costs thoroughly, companies face making decisions about alternative solutions based on unreliable and inaccurate information.

2. **Safeguarding against the business risks associated with inefficient document processes.** Addressing the challenges of poor document workflow often does not occur soon enough. There is a general lack of understanding about how improved digitised processes can be achieved across a number of disparate systems. Two significant threats focus attention on implementing improved processes:

   - Competitive threats. Customers want to work with organisations that have efficient processes. A company may find it is losing customers or facing a higher level of dissatisfaction than usual. For example, due to a competitor's implementation of forms automation software, it is able to more speedily manage insurance claims and mortgage and loan applications.
Non-adherence to compliance regulation/mitigation. Related processes result in increased essential document handling, requiring accurate handling to avoid penalties (e.g., fines) or to provide greater visibility (e.g., accounting practices). In terms of regulatory and compliance processes (3), faxes are now being received electronically and integrated into the electronic business process workflow (64%), customer transactions and communications are being moved to Web sites/cloud (54%), and customer transactions and communications are being moved to third-party Web sites/cloud (54%).

3. Managing the needs of a growing mobile workforce that wants access to information anywhere and at any time from any mobile device. Today, mobile workers represent 20% of Western European workers (4). The key business benefits of mobile working are improved customer service, business continuity, and productivity, and the provision of flexible working practices. Smartphones and increasingly tablets are transforming the way in which mobile workers operate, enabling them to work from any location. The established use of mobile Internet-enabled devices, whether in the office or remotely, increases the need for information access and for many it also changes the way they "consult" documents (5). Although more users are accessing emails, maps/directions and Internet pages from mobile devices, there is a greater business value in digitising business information for immediate access anywhere and at any time. It reduces the reliance on hard copy documents but does not eliminate the need for access to mobile printing facilities.

4. Managing the data explosion, as well as extracting meaningful business intelligence from it easily. Within two years, the number of intelligent communicating devices on the network will outnumber "traditional" IT devices (6). Socialytic applications, such as Twitter and Facebook, are also increasingly used for business also providing valuable intelligence. This, and the emergence of cloud computing and its related applications, provides extended business-critical access. The availability of cloud-based services raises both fears of information security outside companies' own firewalls but also drives demand for easily accessible information in the cloud. Figure 1 highlights the key benefits of cloud applications identified by European MPS decision makers (7).

5. Ensuring that company sensitive information remains secure. The biggest reservation by far with regard to using data outside a company's firewall is security of information, although this major inhibitor to cloud adoption is steadily reducing. With wider access to information, it is a company's responsibility to restrict access to sensitive company information and implement measures to safeguard these measures. In terms of the business agenda, 54% of Western European companies have positioned "sensitive data protection" as the top business initiative (8). In terms of IT solutions priorities (9), there is a strong focus on "integrated and secure access to data and applications" and "proven data privacy protection" (55.2%). Document solutions related to security (authentication and authorisation) are set to grow by a compound growth of over 20% in revenue terms over the next five years (10). Although security is critical to all industry sectors, this is even more the case in industries that handle sensitive and confidential information — healthcare, government, education, financial services, legal services and defence — and for those for which the risk to their intellectual property can have a devastating impact on their business. These challenges highlight the need to introduce solutions that better manage cost and provide greater security and improved information/document workflow for efficient business processes.
Print Analysis and Reporting Software: Key to Identifying/Monitoring Print-Related Costs and Supporting Security Requirements

As mentioned, understanding overall print-related costs is a key challenge. There is a simple solution to identifying and analysing end-user and departmental print activity, as well as identifying associated costs on a continuous basis. Print analysis and reporting software is widely available on the market and, depending on its level of sophistication, can provide a number of value-added features.

This software is instrumental in:

- **Assessing the current print environment.** Print environment assessment is a critical first step in discussing plans to make changes to your print environment, including plans to adopt print services. It provides companies with accurate print activity reporting and analysis, enabling a current or potential print service provider to make recommendations based on reliable information.

- **Choosing the right print solution.** Ensure that print hardware, services and software provided are aligned to actual and future business print and document...
management requirements. For example, identification of document-intensive processes by a single department can prompt companies to consider more automated processes.

- **Changing employee printing habits.** For example, discouraging printing of long single-sided documents or recommending printing multiple sheets per paper page, and discouraging the mis-use of colour printing.

- **Continually monitoring the print environment.** Critical to understanding changes in costs and usage and identifying cost savings — a key component of an effective print services contract.

It offers additional features which provide significant benefits:

- The ability to isolate individual or subgroup usage provides a means of billing costs to specific internal cost centres or customers. For example, costs can be accurately calculated for each individual employee taking into account accurate monochrome and/or colour usage, etc.

- Implementation of default settings, ensuring that all print output devices are set up to output mono double-sided prints as standard. This reduces toner cost through the unnecessary use of colour and reduces paper consumption. IT managers may choose to restrict colour output completely, limiting access according to need.

- Implementation of pull printing. This is where a print job is "pulled" to a specific device from where a user can activate and collect a print job. It reduces waste and adds a level of security as the user must physically approach the output device before the print job is output. This can be activated by using a pin code, swipe card, etc. Basically, if implemented, a company can eliminate waste and reduce the total cost of printing the document, including energy, paper and toner.

A core component of any print services contract is the provision of usage and analysis reporting software (8). However, companies do not need to enter into a print service contract to benefit from this software solution and many multifunctional devices (MFDs) are available today with this solution embedded.

This software can significantly ease the process of monitoring and, when appropriate, rationalising your print environment. There are solutions on the market that enable companies to monitor and analyse usage across multiple brands of print/MFD devices and across disparate systems. These multiplatform solutions work across all majors brands of device, providing a similar user experience.

Case study 1 highlights the benefits of implementing usage analysis and reporting software for an educational establishment.

**Case Study 1: Key Benefits of Implementing Usage Analysis and Reporting Software**

Liverpool John Moores University (LJMU) wanted to provide an improved printing facility to its 24,000 students and 3,100 employees, spread across 26 buildings, reducing costs of €2.1 million and output of 60 million pages. Students were charged for printing using a print accounting system implemented in 1998, but this system was not extended to staff printing.

As part of its MPS contract with its chosen provider, LJMU wanted to take
an innovative approach to reducing overall costs by €120,000 a year. By replacing the existing MFDs it saved approximately €490,000 from 2007 to 2011 (estimated for 2010/2011).

The new MFDs featured embedded Nuance Equitrac Express software with a cluster for three print servers. This software implementation provided LJMU with the ability to:

- Register all machines providing device usage monitoring and analysis.
- Eliminate downtime with the ability to move from one of three print servers.
- Charge both staff (by departmental code) and students (by virtual purse) for copying and printing accurately.
- Through its Follow-You Printing (pull printing) feature, enable users to retrieve print jobs from any of the 26 sites, providing greater flexibility and convenience. As print jobs are released by the user at the machine, Follow-You Printing was a solution to eliminating printed output that was never collected, eliminating waste and providing a level of security. Jobs are held for 18 hours and then erased. The user ID card is the only way to release a print job.
- Through smart monitoring, send a message to the helpdesk to notify it if a machine is offline. Nuance's Equitrac clustered services mean that users can connect to any of three print servers providing continued functionality and productivity.
- Set up mono and double-sided printing as a default with options to access colour, finishing/stapling and A3, in line with LJMU's print policy to reduce overall print costs.

Benefits:

- By automatically erasing print jobs from the queue, LJMU saved 4.5 million pages that would otherwise have been printed and not collected. This accounted for 20% of its 18 million annual page output, providing a cost saving of more than €95,000 a year.
- LJMU is providing a better service for its students. Equitrac accurately costs output, for example, only charging for colour output on pages within a document where colour exists. This can represent a 600% saving in some cases.

Harnessing Company Intelligence Securely for Easy Anywhere, Anytime Access

Document workflow is still heavily paper-based, resulting in time-consuming challenges for organisations, including:

- Seeking and finding information among large volumes of paper files
- The higher risk of misplacing or losing documents
Storage and distribution costs associated with paper-based documents, whether they are held onsite or offsite

**The Importance of Scan Functionality**

At the heart of plans to replace paper documents with digital documents is the ability to scan. With great demand to digitise information for companywide access and easier distribution, the use of networked scanners and scanning on multifunctional devices has increased significantly. Reducing or eliminating the need for paper-based storage reduces storage costs, whether onsite or offsite. Software solutions that enable users to scan from an MFD to the desktop or email are now commonplace. With greater adoption of cloud services, access to secure MFD scan-to-cloud solutions is increasing.

Demand for scanning is clearly reflected in:

- **7%** growth in the Western European document imaging scanner market in 2011 and an anticipated compound growth of over **8%** in the next five years (8).
- Growth in the "paper-to-digital" document solutions software segment, comprising document capture (scanning, conversion and routing), document repository (archiving and management) and forms processing. It is the largest document solutions segment, accounting for more than half of total Western European document solutions revenues (11).
- The fact that the capture and image management software market will continue to be one of the strongest software growth segments (12).

Case study 2 highlights the benefits of implementing scanning solutions in an international legal company.

**Case Study 2: The Power of Scanning at SJ Berwin LLP**

SJ Berwin LLP is a pan-European law firm with nine offices in major cities across Europe. It has over 150 partners and employs over 500 lawyers providing a wide breadth of legal services to high-profile clients. The company had been using Nuance's eCopy ShareScan for several years for its scanning requirements and eCopy's scan-to-mail capabilities and understood the significant benefits of scanning. As part of its plan to move to new offices, the legal firm wanted to ensure that it optimised the use of premium office space and operated a cost-efficient business. In addition, it wanted to ensure the secure and easy transition of paper documents to its new document management system, enabling authorised users to access digital client records from any location.

Solution: SJ Berwin implemented a Nuance eCopy solution which:

- Provided greater access to scanning functionality (eCopy ShareScan)
- Enabled secure but easy access to SJ Berwin's document management system (eCopy Connector for Interwoven WorkSite)
- Integrated with the company's existing cost recovery system, ensuring accurate client billing by also recouping the cost of scanning (eCopy Cost Recovery Service)
Benefits:
- Streamlined workflow — extending scan functionality from scan-to-email to scan to the company's document management system, before e-filing
- Reduced document storage costs — it recovered an estimated 6% of its office space by reducing paper storage, equivalent to an annual €840,000 saving
- Increased recouped costs — through the overall cost recovery system, it could apply client chargebacks for total document handling worth an estimated €1,200 a month

Leveraging Document Capture and Image Management Solutions

In a 2011 IDC European Hardcopy Usage study, 43% of companies had replaced or were planning to replace paper-based workflows with electronic workflows (3). This is often a companywide initiative rather than a departmental one, offering challenges of its own in terms of size and complexity. However, improved information management is not just limited to scanning or capturing information but the way in which documents are created, stored and used.

The need to automate paper-based document-intensive business processes is often the primary driver for the acquisition of capture and image management software, but solutions that provide sophisticated search functionality are equally as valuable. Solutions should include classification and intelligent extraction functions for processing electronic documents in a variety of formats, including emails and Microsoft Word documents. Capture and image management solutions provide:

- Capture capabilities that convert images of scanned documents to text via an optical character recognition (OCR) engine
- Indexing capabilities that automatically generate metadata for the scanned document for search purposes, provide an application user interface that facilitates manual indexing, or provide a combination of the two
- The ability to store and retrieve documents, whether via the vendor's own repository and search services or via integration with other content management solutions

Case Study 3: Embracing Digital Document Workflow

Insurance companies are accustomed to document-intensive processes and it was important for a national insurance company that it delivered both speed and quality of service to its ever-expanding client base, through improved document workflow.

To allow seamless integration, Nuance’s eCopy ShareScan was used to provide secure scan-to-folder and scan-to-Open GI functionality. Open GI is recognised as a leading provider of front- and back-end broker solutions to the insurance industry. This enabled the company to digitally capture proposals, statements, policy documents, policy schedules, client communication and claims-related evidence including photographs, and to
provide the search functionality required. Staff training took less than one hour.

In accordance with regulatory compliance, all documents are time-stamped to identify when documents were amended and by whom. Documents are also quicker to retrieve due to barcodes, client codes and policy code features.

Benefits:

- The ability to batch scan for quick archiving
- Fully searchable documents with faster and easier retrieval
- Easier compliance with regulatory guidelines
- An initial 50% reduction in paper storage with a target to remove all physical filing cabinets in the first year
- Most importantly, it enables the insurance company to deliver the speed and quality of service comparable or superior to its competitors

**Summary and Recommendations**

Operational costs are high and need to be addressed head on. The rate at which we receive information is growing exponentially. We don't need to print all of it. We do need to print some of it — in a smarter and secure way. Information needs to be better managed not only to reduce and control associated costs but for greater process efficiency and effectiveness.

Optimising the print environment by providing the hardware, software and services that best meet the requirements of your organisation and the tools to control cost and access can provide significant ongoing business advantages. However, companies considering print services should not necessarily expect their entire print hardware fleet to be replaced by a single specific brand. In addition, companies should expect their print services provider to implement usage and analysis reporting software that works across multiple platforms. "Solutions" should not just find a way to patch disparate systems together but to seamlessly integrate them for optimum efficiency and a consistent user experience.

Usage analysis and reporting software can identify actual usage across organisations for the first time ever, providing essential input in devising a print strategy. Although larger organisations are often the first to pay attention to print-related operational costs, this form of software enables smaller organisations to better understand print activity and consequent printing needs. That is, through an understanding of how people use hardware, what features they use the most, in what format they print (colour, A3, double-sided) and how much they print, companies possess accurate information on which to base future print/hardware and print services decisions.

All major print service providers should offer this to you as part of a standard print services contract. If you already have this solution in place, you should expect a print service provider to incorporate usage and analysis reporting in its assessment of your organisation's print environment and in reporting on analysis against any service level agreements.
The activation of additional features of this software can also be exceptionally valuable to your organisation, for example, the ability to restrict or control user access and output. This could extend to restricting a user from printing in colour, to restricting a user from printing a specific document which provides confidential company information.

We need to access information any time, any place to improve productivity and provide the level of service our trading partners and customers expect — we want to be able to scan a document to wherever we want: fax, email, to the cloud, etc. This information has to be real time, accurate and securely accessed. We need to quickly identify what is of value and not of value. Information must be easy to find through sophisticated search, browsing and filtering functionality, as well as providing query suggestions rather than lists of documents. Only through the ability to add context can these platforms help information workers make decisions, execute tasks and succeed in their roles.

We need to manage information securely. Companies need to put in place measures to restrict access to specific employees and possibly extend a level of access to specific information to trading partners.

There are various ways in which document access, output and distribution can be restricted according to work responsibility:

- Secure access to devices for scanning and printing output can be tied in with employees' normal network login and password or through an employee's unique security pass.
- It can ensure that activity is linked to individual users and is fully traceable.
- It can also limit the amount of information a user has access to from a database.
- Specific documents can be protected from being scanned and distributed across a public network or alternatively securely distributed by using document encryption to send and access a document.

As scanning is used increasingly to improve document workflow, it is also essential that documents are not left "hanging" in the cloud. Once a document has been scanned and sent to a desktop, email, etc., companies need to ensure that documents are digitally "shredded."

Implementing usage analysis and reporting software and scanning solutions alone can result in significant cost savings and pave the way to automating critical but manual and time-consuming processes. Efficient processes improve the overall productivity of limited resources while supporting initiatives to increase the efficiency and competitiveness of your organisation. It ensures that you are a company that others want to do business with, retaining existing and recruiting new customers, while warding off competitors.
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