WHITE PAPER

Integrating Paper Documents Into Digital Workflows

NUANCE

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In today's Internet-driven, knowledge-based economy, quick access to important information is critical to day-to-day business functions.

Document and content management systems now handle a wide variety of information assets, including electronic documents, audio, video, etc., and make them available to anyone with access rights, regardless of their physical location. Largely missing from this picture, however, is the ability to share paper-based information. Except for specific vertical applications (forms processing, records management, etc.), knowledge that exists on paper tends to stay on paper.

Market opportunity

"The base of multifunction devices in the office continues to grow, creating an attractive platform onto which software developers can deploy new solutions. With software development tools, independent software developers can integrate applications to extend the use of networked office equipment."

CAP Ventures, Software Development Programs & SDKs: The Cornerstone to Innovation in Document Solutions, February 21, 2003

Regardless of the economic climate, successful companies are continually looking for ways to leverage their existing infrastructure and applications to save money. Today, application "connectors" are available to greatly enhance your current business processes by integrating paper-based information with your workflow. Using a software developer kit (SDK), third-party companies and in-house IT departments can:

- Dynamically link digital copiers and scanners to existing applications
- Save paper documents directly into application databases
- Provide native integration
- Validate users at the MFP, providing security and audit trails for regulatory compliance

In most companies today, paper-based information is maintained separate from the electronic workflow and is, therefore, subject to numerous problems, including:

- It is hard to locate
- It is easily lost or misplaced
- It is expensive to distribute
- It is hard to protect
- It is difficult to link to other electronic content
- It creates a broken link in the workflow

To solve these problems, businesses are increasingly turning to ward scanning solutions to bring paper into the electronic domain and workflow. Once in an electronic form, documents can be located and shared easily, included in a regular offsite backup plan, and integrated with other information assets. Additionally, systems that provide scanning capabilities to the general office environment have the potential to create significant cost-saving opportunities and often pay for themselves quickly.

As networked digital copiers - also known as multi-function peripherals or MFPs — become the workplace standard for department copying/printing/scanning, it is fast becoming a business requirement for MFPs to offer the additional functionality necessary to integrate with existing business applications. This presents new opportunities for third-party companies (VARs, system integrators, independent software vendors, and office equipment dealers) to provide the customers with a robust solution that full integrates their paper documents with their enterprise applications and resulting digital processes.

Scanning in the office today

Traditional analog copiers are rapidly being replaced by network-ready digital copiers. These digital devices employ the latest scanning and laser printing technology to generate ultra-sharp reproductions of paper-based originals at very high speeds. Most also support network printing, with performance and features comparable to, or exceeding, those of high-end dedicated network printers. Many also offer on-board fax transmission capabilities.

A growing number of digital copiers use the device's built-in scanner to support network scanning. Scanning takes a paper document and converts it into a digital image file that can be transmitted over a computer network or stored electronically. Until a few years ago, office scanning was limited mostly to production imaging systems and standalone desktop scanners. Now, according to a survey by InfoTrends, 34% of office workers have access to a scan-enabled digital copier.[1] Most of the major copier vendors now offer network scanning capabilities of some kind. These range from basic scan-and-mail implementations to versatile electronic document distribution systems.

Multifunction devices of this kind are fast becoming an integral part of the office network, providing copying, printing, faxing, and scanning services to groups of users. Since these high throughput devices can be shared by a workgroup, or even a department, they provide enormous cost savings over personal or single function devices.

> *"Widespread adoption (of scanning) will depend largely on simplicity, usefulness, and compatibility with existing systems and on seamless integration."*
>
> *Gartner Dataquest*[2]

Analog copiers were unconnected stand-alone devices. As such, compatibility with other hardware or software applications was not an issue, and purchasing departments typically handled the acquisition of these devices. Virtually all digital copiers, on the other hand, come with a network interface, or at least provide network connectivity as an option. For this reason, corporate IT departments have become heavily involved in the selection of digital copiers whereas typically this decision would be made by a purchasing department. IT departments typically use a very different set of criteria to evaluate copiers. While purchasing departments generally focus on cost per page over the life of the lease, IT departments are more interested in total cost of ownership, which takes into account installation and configuration, device administration, end user training, etc. Internal IT groups are also becoming increasingly focused on interoperability - how the network connected digital copier integrates with their existing network infrastructure - to leverage their current investments in application software including e-mail systems, fax servers, document management systems, workflow management applications, and more.

[1] InfoTrends Research Group, "2002 Document Scanning End User Survey: Understanding Scanning Usage in Corporations," January 15, 2003

[2] Gartner Dataquest, "Scanning: The New Frontier for Digital Copiers," November 27, 2000

Business opportunity

While customers are demanding ways to funnel paper documents into their existing or planned business workflows, systems integrators and enterprise application developers seek to provide the means for paper documents to be empowered by their applications.

The motivation is simple - more people requiring access to more content equates to additional user seats and increased data storage requirements. This convergence of desires from both the user and development communities provides a unique business opportunity to deliver the functionality that makes end-to-end solutions possible. Most high-end copier vendors now recognize this business opportunity, and successful vendors will either supply the solutions or provide an open architecture that enables third-party developers to plug into existing capabilities.

Businesses involved in "production scanning," where large volumes of standard forms (mortgage applications, order forms, etc.), are familiar with the idea of document processing. For years, companies have utilized "release scripts" to automate the process of passing documents to various backend applications. The same model can be applied just as successfully to the type of "ad hoc" scanning that takes place in virtually every office environment, but with two major differences.

While production scanning systems typically require dedicated operators trained in the complex procedures required to process documents, general office systems are designed for simplicity — user-friendly, intuitive, and with a focus on ad hoc document distribution by typical office workers. Plus, most production scanning systems do not validate the user at the copier.

A successful shift from selling hardware to deploying software-based solutions will be a critical factor in determining the future viability of a number of office equipment vendors. To remain profitable, channels must evolve their business model to focus on capturing revenue beyond the placement of office equipment.

Many factors are currently moving office equipment vendors away from their hardware-centric roots and toward a solution focused approach. The most critical factors are:

- The increased sophistication of current product offerings
- The shift in customer interest toward complete document solutions
- The opportunity for increased product differentiation
- The decrease in hardware margins
- The increase in competition from traditional suppliers of networked printers

Taking advantage of this opportunity to provide solutions that connect digital copiers and scanners to business critical software applications are independent software vendors (ISVs), value-added resellers (VARs), system integrators (SIs), end-users, and the office product manufacturers themselves.

"The base of multifunction devices in the office continues to grow, creating an attractive platform onto which software developers can deploy new solutions. With software development tools, independent software developers can integrate applications to extend the use of networked office equipment."

CAP Ventures[3]

[3] CAP Ventures, "Software Development Programs & SDKs: The Cornerstone to Innovation in Document Solutions," February 21, 2003

Application integration with multifunction devices

With corporate IT involvement in purchasing decisions for networked digital copiers, expectations for compatibility and network integration have risen significantly.

Instead of viewing scan-enabled devices as just "digital on-ramps" for paper documents, IT departments increasingly seek solutions that connect to their existing network infrastructure and enterprise applications, including:

- E-mail applications
- Network fax servers
- Document/content management systems
- Accounting or Human Resource applications
- Other networked software applications, including custom solutions developed in-house

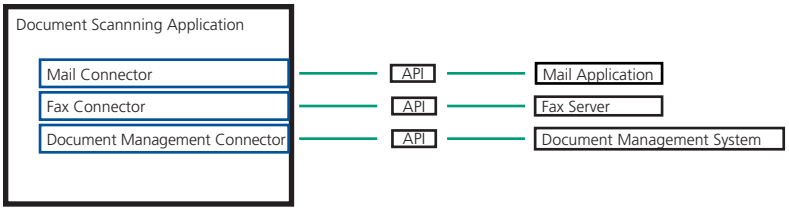
Much knowledge is still "locked" in paper, isolated from the information sharing made possible by today's electronic databases and web infrastructure. Making this knowledge accessible to employees, business partners, or customers is critical to the success of many organizations. Due to the increasing importance being placed on this initiative by corporations, businesses actively seek out solutions and vendors that support them in this goal.

A "Connector" is the link between an eCopy-enabled scanning device, such as a document scanner or digital copier, and a networked software application or service.

Application connections enable users to integrate paper documents into their existing electronic workflows, regardless of the backend applications that support those workflows. Through connections that natively integrate with the specific destination applications, simple yet powerful solutions for communicating or storing paper documents are made possible.

> *"As organizations focus on better leveraging existing IT investments, they will look toward low-risk, easy-to-deploy, easy-to-use solutions for improving routine document processes within the enterprise. Added value in the office equipment market will be determined by device compatibility with existing IT systems."*
>
> *CAP Ventures*[4]

Connections provide the "middleware" that make this end-to-end processing of paper documents possible:



[4] CAP Ventures, "Software Development Programs & SDKs: The Cornerstone to Innovation in Document Solutions," February 21, 2003

In such an architecture, the end user scans the document at the copier or scanner and is prompted by the scanning application to enter certain information through a control panel. The information that is collected is defined by the connector. For example, a mail connector prompts the user for his/her name, the recipient's e-mail address, password, and a subject line for the mail message. A document management connector prompts the user to enter information such as document type (i.e. proposal, resume, or purchase order), attributes to be used for indexing, and specific location to be stored. The connector is then responsible for sending the scanned image file with any associated indexing or metadata to the backend application through its programming interface.

The Document Imaging Solution's Role

Solutions for scanners and digital copiers enable users to scan paper documents and send them electronically over the local network or the Internet.

While not all solutions offer the same capabilities, many of these products ship with several core scanning functions, including:

Scan and Mail

Delivers scanned documents using a company's

existing e-mail system. Complete native integration with Microsoft Exchange or Lotus Notes is supported, meaning validated users can access existing server-based address lists and send documents from their personal mail account directly from the copier. Additionally, any mail server that can be configured as an SMTP server is also supported, with LDAP address book integration available.

Scan to Desktop

Delivers scanned documents to a personal Scan Inbox or Windows home directory. Documents can then be retrieved using the eCopy Desktop client software, which provides comprehensive viewing and annotation capabilities, as well as integration with numerous mail, fax, and document management applications. Printer/ copier-related costs

Scan and Fax

Sends scanned documents using a company's existing network fax server. Any fax server that uses a Microsoft Exchange or Lotus Notes gateway is supported, and native integration with Captaris RightFax® is also available. Internet fax services are also supported, enabling faxes to be sent and received over the Internet using an existing e-mail infrastructure, without any investment in fax hardware.

Scan to Printer

Sends scanned documents to a remote printer anywhere on a network.

Scan to Network Folder

This feature can easily automate the workflow process for scanned documents and integrate scanned documents into existing business processes. Easy to use for administrators and users, eCopy Quick Connect offers custom "Scan to" Buttons, versatile file naming, indexing, and destination options.

Sample Scan to Folder configurations include:

- Scan to HR – resumé submission for inclusion in PeopleSoft
- Scan to Finance – purchase order indexing and storage for inclusion in Great Plains
- Scan to Sales – inclusion of expense reports
- Scan to Legal – logging of signed NDAs and contracts for inclusion into a DM system

Connected solutions

Today, most digital copier vendors offer basic scanning capabilities, such as scan to e-mail. However, there are solutions available that execute on a strategy of providing customer and industry-specific solutions that connect scanners and digital copiers to customers' business critical software applications.

In addition to the core functions, some solutions now offer a series of "Connectors" — add-ons that provide additional integration capabilities. These connected solutions enable paper documents to be scanned, tracked, and distributed into selected document management systems and other enterprise applications, directly from the copier or scanner.

Software developer kits (SDK)

To better serve more comprehensive integration requirements where direct integration with the backend application is required, software developer kits are sometimes offered. The SDK dynamically links digital copiers or scanners into existing applications. Additionally, the SDK saves scanned documents directly into the application database and validates information for application integration. The SDK is best used when native integration to custom applications is preferred.

The eCopy ShareScan SDK is based upon industry standard development tools from MS Visual Studio.net and enables rapid development of a Connector linking eCopy ShareScan to a desired network application or service. The SDK offers the ultimate flexibility for those wishing to add paper to customer applications.

eCopy Connections Alliance Program

What is eCAP?

The eCopy Connections Alliance Program (eCAP) exists to support the development of Connectors by third-party developers worldwide. Today, eCopy and our eCAP partners provide Connectors to many leading document management, e-mail, fax, cost recovery, and other business applications. We continue to expand our library of Connectors, offering customers easy, seamless integration with eCopy products and their current infrastructures.

Why Develop a Connector using an SDK?

- Gain a competitive advantage
  — Differentiate your application and attract new customers or maintain current customers
- Extend the value proposition of your solution
  — Broaden your application to capture paper documents on the front end & implement solutions that support government-related compliance regulations
- Secure additional sources of revenue
  — Increase the value of your application and increase customers
- Increase opportunities for new partnerships
  — Some solutions support our various partners in realizing mutual synergies, and then working together to maximize revenue opportunities
- Invest resources in a sound, intuitive developer interface
  — An Open Platform architecture enables developers to create one Connector to work with all scanner/ digital copier platforms

Summary

As you evaluate network scanning and electronic document distribution solutions, look for one with an open, expandable architecture that can integrate with virtually any enterprise application you use now or may use in the future. Not all solutions have this level of flexibility.

The experience speaks for itself™

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