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An Introduction to Imaging Workflows

Successful document management depends upon well thought out imaging workflows. **by Steven Finch**

Document imaging, often referred to as scanning, is becoming a fairly common workplace practice, one that's particularly useful for agencies. But despite the recognized benefits of reduced paper handling and storage, document imaging injects a new dynamic into an office's workflow routines.

This article will introduce you to concepts essential for understanding document imaging workflows. Additionally, you'll learn about a new workflow methodology, called "Detached Indexing."

Basic concepts

In general terms, document imaging consists of scanning, indexing, and storing paper documents that have been converted to a digital or electronic format. Documents can originate from any source or application, including e-mail, inbound fax, or from a desktop application. Once this process is completed, the scanned document can also become a managed document.

For a scanned document to be useful (after all, you presumably scanned something for utilitarian purposes), it must be managed so it can be found and retrieved at a later date. Document management enables an organization to centralize, retrieve, share, and act upon captured information.

Recently, there has been a convergence of sorts between document management and imaging management. Indeed, document imaging is a subset of the larger document management process and both share a common workflow sequence.

Now that many organizations have jumped the hurdle of implementing document imaging capability, they are

moving toward more sophisticated document management products and strategies that can improve workflow efficiency and document utility. Moreover, these products can be an ideal first step toward creating an organization's document management strategy.

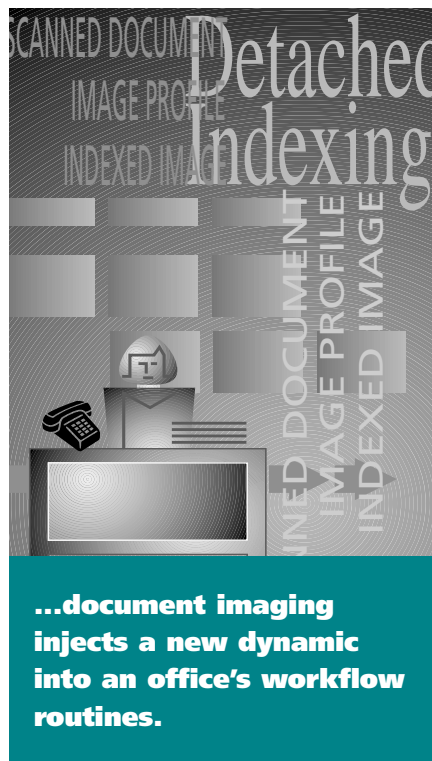
Document imaging process

A general understanding of the document imaging process is necessary for understanding imaging workflows. Imaging workflows are constructed from the following steps:

Capture is the act of scanning, or transforming, a document into a digital image. Traditional workflows are defined by the location of the capture step in the workflow.

Indexing is the process of identifying document properties. Scanned documents are classified (as an organization deems necessary) and placed (filed) into an appropriate virtual folder on the image server. The virtual folder, document type, and keywords are a few of the document properties associated with a document. Each property is a field in the database that the server uses to track documents. The server automatically assigns other properties such as the date and time the document was created.

Routing is sending an image via



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e-mail or placing the image in a folder or queue.

Processing is the step where action is taken based on the contents of the document, e.g., an endorsement.

Retrieval involves accessing the document via the document properties established in the indexing step.

What about T-filing?

Agencies that already practice T-filing can continue the practice in an imaging environment. The T-file date simply becomes the primary index. The systems our organization has developed allow for the simultaneous use of customer number-based and T-file-based data structures. It is important to understand the difference between the addition of a T-file data field to a customer number-based system and a T-file-based system. Customer number-based structures consist of multiple documents associated with a customer number. T-File-based structures consist of a single document per processing representative per day.

Traditional imaging workflows

There are three traditional imaging workflows: early capture, latescan, and simultaneous.

Early capture – Documents are scanned as soon as possible and are processed electronically. One scanner can be used to scan several documents into batches, which can then be distributed to others for indexing. This workflow calls for processing to occur from a scanned image. Often times, this workflow is difficult to implement because experienced processing personnel may not be readily receptive to working from an image.

Latescan – Documents are processed normally. Paper is transformed into images after the processing step. This is the easiest workflow to implement. Early capture can then be added after document types and folder structures are established.

Simultaneous capture – Documents are scanned as they are pro-

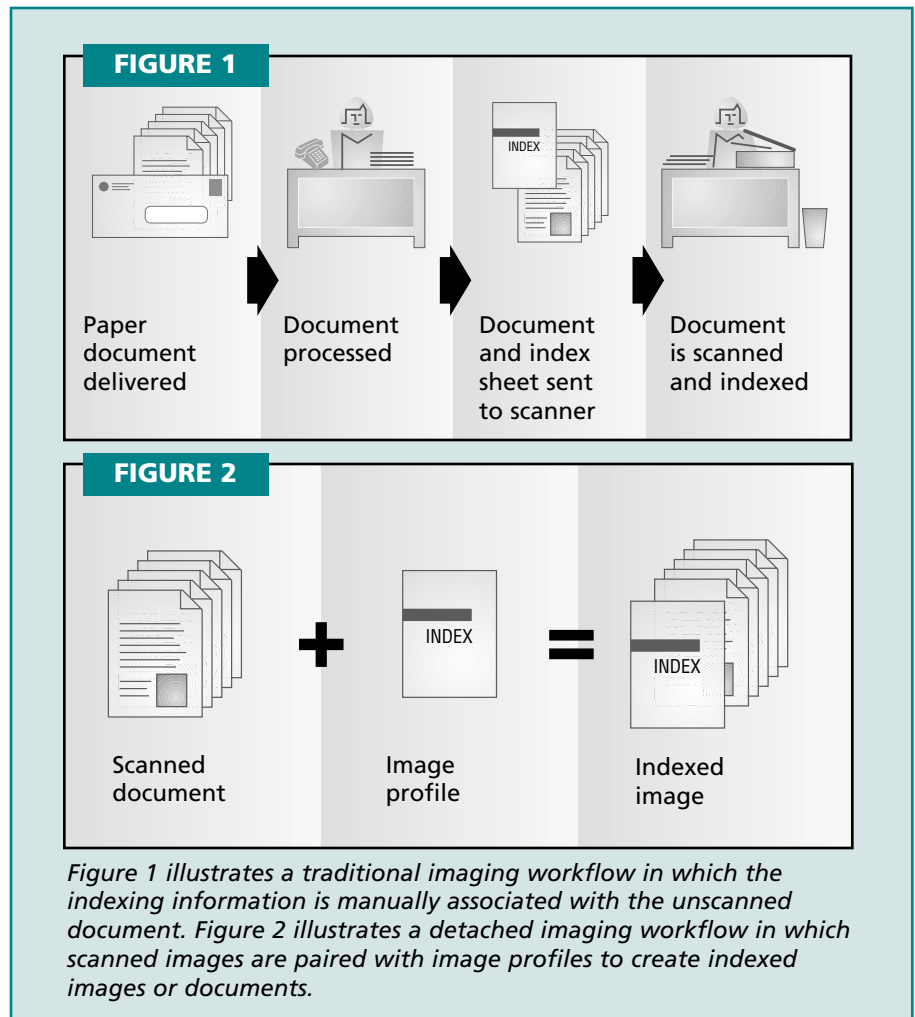


Figure 1 illustrates a traditional imaging workflow in which the indexing information is manually associated with the unscanned document. Figure 2 illustrates a detached imaging workflow in which scanned images are paired with image profiles to create indexed images or documents.

cessed. This means allocating a scanner for each person processing documents. Since this is expensive and not very efficient, this workflow is not recommended and not described further in this article.

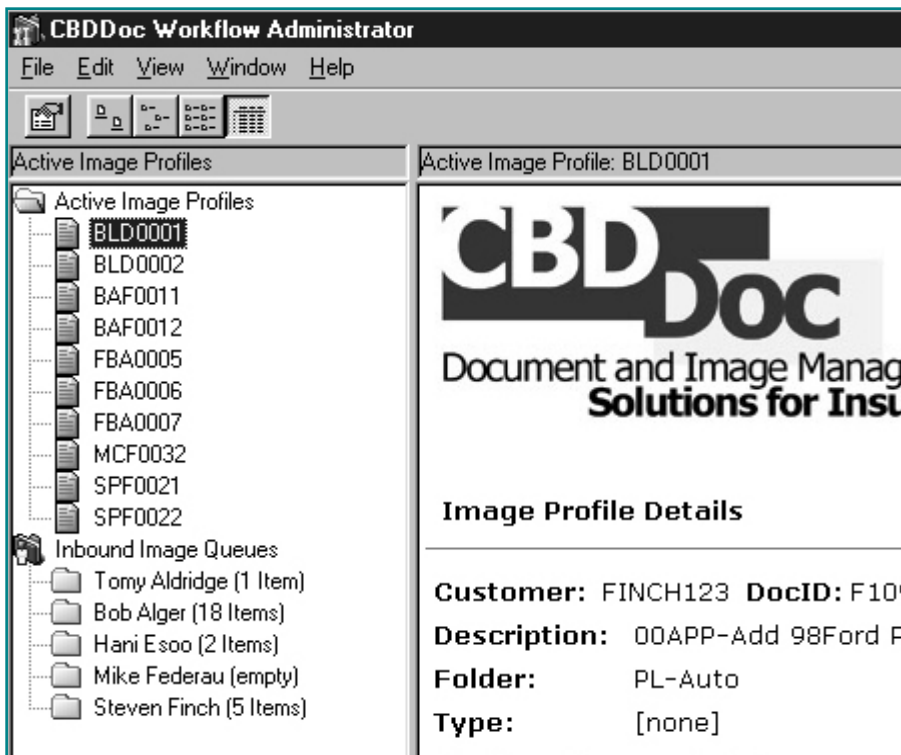
A new methodology — Detached Indexing

All of the workflows described share one common feature: index information is applied to an imaged document. Electronic indexing cannot occur in the absence of the scanned image.

All traditional imaging workflows are based on the presence of an image before electronic indexing can begin. In latescan scenarios, as depicted in Figure 1, indexing information has to be manually associated with the unscanned document. Due to the nature of the workflow, manual indexing is prone to user input errors. For exam-

ple, the index cover or spacer page could be incorrectly labeled or the wrong cover page might be applied to the wrong document.

Detached Indexing is a new method wherein documents can be indexed at any point in the workflow. The primary departure from traditional workflows is the use of “detached image profiles.” A detached image profile is a file that is created at the time of processing, which can later be associated with a scanned image. This method is less prone to error because trained processing staff creates the index profile. In advanced scenarios, integration with agency management systems allows for the automatic generation of the image profile at processing time. In a detached imaging workflow, scanned images are paired with image profiles to create indexed documents. The use



Screen 1: Image profiles are generated from this workflow administrator screen.

of detached image profiles also reduces indexing times in all workflow scenarios.

Figure 2 illustrates the relationship between scanned documents, image profiles, and indexed images.

Sample latescan workflow

The concept of creating electronic image profiles before a document is scanned greatly improves the Latescan workflow. The following steps outline a basic latescan workflow using Detached Indexing.

Step 1: Mailroom personnel receive paper mail or printed fax (document).

Step 2: The document is delivered to processing personnel.

Step 3: The document is processed and referenced in the agency management system.

Step 4: A document profile is generated in one of two ways — either integrated or non-integrated. Integrated status refers to the relationship with the agency management system. On a non-integrated system, the image profile generator program (see Screen 1) is executed and filled out by the user.

The image profile generator also has command-line arguments that can be easily called by an agency management system to create an integrated environment. In an integrated environment, the agency management system launches the image profile generator and automatically passes information such as customer number and document title.

Step 5: The image profile generator saves the index information in the “Active Image Profile Queue” and generates a

short unique identifier called an “Image Profile ID” (see Screen 2). The Active Image Profile Queue contains the profiles for all documents that have been processed, but not yet scanned.

The use of Image Profile IDs greatly minimizes the amount of information that must be passed from processing personnel to scanning personnel, a major drawback of the traditional latescan environment. Furthermore, Detached Indexing enables the individual who processes the document to also create the electronic index, thereby reducing potential indexing errors that are common in the latescan environment where scanning personnel are generally less familiar with the indexing data.

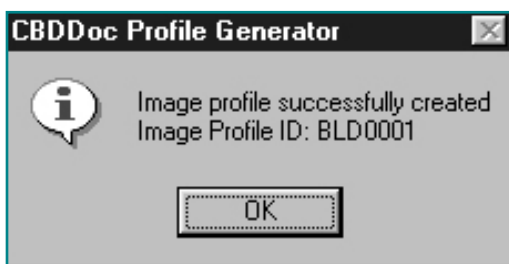
Step 6: The user writes the image profile ID on the document and the document is sent to a latescan scanner workstation. Future implementations will allow for the use of barcodes to associate the document with the image profile.

Step 7: The document is scanned. The scanning user selects the proper image profile from a list of active image profiles. Once the scanned document is associated with an image profile, the image profile is removed from the system and the now-indexed image is added to the database.

Step 8: Depending on internal procedures, the original paper document is either destroyed or stored off-site.

Fits into any workflow

The greatest benefit that Detached Indexing provides is that processing personnel can produce the electronic index regardless of where the capture step resides in the workflow. In a latescan scenario, agency management system integration is greatly simplified because the electronic index is created during the processing step — long before the document is even scanned. When an agency advances to an early capture workflow, no programmatic changes need to occur to the indexing/integration process. The processor simply processes the scanned image (just as they did with the paper document),



Screen 2: Message screen depicting the successful creation of an Image Profile ID.

and an image profile is created and simultaneously associated with the open image.

Administering workflows

It is possible to implement multiple workflows simultaneously if the proper workflow administration tools are in place. Managers are able to supervise workflows by monitoring Inbound Image Queues and Active Image Profile Queues.

Inbound Image Queues are a storage location for scanned images that have not yet been processed. Inbound Image Queues are identified by user and are only used in early capture workflows.

Active Image Profiles are the electronic index files for documents that have been processed, but not yet scanned. Active Image Profiles are

unique to systems that make use of Detached Indexing.

Managers can examine the queues and reassign resources if needed. For example, if the Active Image Profile threshold reaches its agency-defined limit, then additional scanning resources are needed. If a document residing in an Inbound Image Queue reaches a maximum age threshold, it can be reassigned to another user.

Summary

The convergence of imaging and document management necessitates the development of new, more advanced imaging workflows and concepts such as Detached Indexing. Document imaging is no longer an isolated agency process but a core component of document management.

The time for document management is now. Today, agencies have to deal with an ever-expanding amount of information; a growing amount of this information is generated from outside the traditional agency systems — the Internet, clients, and carriers. In order to take full advantage of this environment, agencies must proactively develop methods to store, organize, and efficiently access this information. ♦

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