

An Overview of Document Imaging

Introduction

Document imaging is a reliable, stable technology that provides many proven productivity benefits. These benefits come from the carefully planned and controlled implementation of this technology tool, as well as from the features contained within the imaging software. Imaging takes over many of the mundane clerical paper handling tasks, freeing up time for more productive uses.

The following is a brief overview of document imaging and some of its key components. This overview is a good place to start your investigation of imaging, its features, and its benefits. Specific topics are also covered in more detail on other pages within the site.

Overview

Many companies have heard of imaging, but few have had an opportunity to review it in detail. This overview is intended to present some of the key features and capabilities of our document imaging software.

Our imaging software, called **IMIGIT™**, was developed by POH in the late 1980's and has been updated regularly ever since. It has one of the largest installed bases of any imaging package on the market today, with nearly 5,000 installed sites already up and running. **IMIGIT** is a very durable, "industrial strength" imaging package. It is designed for high-end clients who need to store hundreds of thousands, or even millions of pages of documents on-line, ready for immediate access. Some of our clients have more than 30 million pages of information stored on-line and can locate any page in 5 seconds.

Imaging provides a number of tools to minimize the amount of paper that must be handled. Paper handling and storage is expensive. To manage the paper problem, the only real choice in the past has been to hire more clerical staff. Today, there is a better choice. Imaging can solve the paper problem and can do so for less than it costs to pay for just 2 clerical staff positions.

Within the imaging system, the information is organized into file cabinets, file folders, documents, and pages just as in the paper world. This standard hierarchy makes it easy for a non-technical person to quickly grasp the basic concepts of the imaging system. There is no limit to the number of cabinets, folders, documents, or pages that can be stored in the imaging system. The only limitation is the amount of disk space that is available. As a rough estimate, a 150 gigabyte hard disk has enough room to store about 3.2 million pages on-line.

Hardware

The basic hardware component of an imaging system is the imaging server. There are no special requirements for the imaging server. Any server computer that will run Windows 2003 Server will work fine. A typical imaging server computer will have at least 2 gigabytes of RAM and at least 150 gigabytes of hard disk space. As a general rule, about 25,000 pages can be stored per gigabyte of disk space.

The imaging server is normally located in the computer room and is connected to the TCP/IP network as just another IP address. Since it is attached to the network, it is accessible to all authorized users simultaneously, even if the users are in different offices. All of the imaging software, the images, the indexes, and the licenses reside on the imaging server.

We recommend that imaging run on its own server. This is based upon two factors. Imaging, being graphical, places heavy demands upon the resources of the server. By placing imaging on its own server, the production server is able to function at full speed. By installing imaging on its own server, it is isolated from the primary production server. This means that nothing that imaging might do will have any negative impact on the production server. As inexpensive as hardware is these days, it is much more practical to have imaging run on its own server.

The users access the imaging system directly from their own Windows PCs. A small viewer program is installed on each Windows PC that will be used to access imaging. The user can click on the imaging icon, provide a valid user ID and password, and gain access to the information in the imaging system. The only requirements for the Windows PC is that it be running a supported version of Windows and that it be connected to the network.

The user's PC acts as display station only. No images or indexes are stored on the local PC. Even if the PC is used as a scanning station, nothing stays at the local PC. Everything is immediately transferred to the imaging server. If a company has multiple sites, it does not matter in which office a user happens to be located, as long as they have a network connection. This makes imaging simple to deploy across a large organization.

Scanners

There is no limit to the number of scanners that can be attached to an imaging system. There are no licensing fees for scanning stations. Imaging can work with many different scanners. The primary requirement is that the scanner support ISIS drivers. The scanners connect to the user's PC with a standard USB connection. We do not support multi-function copier/printer/scanners nor do we support network attached scanners.

The scanners that most our clients use are the Fujitsu fi-6140, and the Fujitsu fi-5650C. The choice of a scanner is based primarily on the volume of paper to be scanned. All of the scanners have roughly the same features and capabilities. If you know the number of pages to be scanned each day and the number of pages per minute that a scanner will process, you can choose the scanner that best fits your needs.

The Fujitsu fi-6140 scanner is a 60 page per minute scanner. This is a good choice for scanning volumes of up to several thousand pages per day. It has a very small footprint, taking up less desktop space than a laptop computer. It will handle pages as small as a personal check and as large as 8.5" x 14". About 30 pages can be put into the feed tray at one time. The street price on this scanner is about \$1,700 or so.

If there is a requirement for scanning pages larger than 8.5" x 14", the best choice is the Fujitsu fi-5650C. This is a 50 page per minute scanner that will handle pages as large as 11" x 17". The street price on this scanner is around \$4,000 or so.

These scanners are available from many distributors and can be ordered from a variety of sources. Both use a standard USB connection and ISIS drivers. Both of these scanners are in use at many of our client sites.

In-House or Web-Based?

There is no question imaging requires a large investment. This has kept some companies from taking advantage of the benefits that come from imaging. Some companies are too small to justify the capital expenditure, while others, although large enough, run into problems with internal capital budget allocation processes.

For these situations, ITG offers a web-based imaging option. With this option, there is no hardware or software to buy. We connect your network to one of our imaging servers using a high speed secure connection like VPN. Whether the imaging server is in-house or web-based is totally transparent to the users. They have exactly the same features, functions, and capabilities with a web-based server as they do with an in-house server. The only difference is that there is no up-front capital expenditure with a web-based. Instead of buying technology, it is rented. Rather than a large capital expenditure, there is just a monthly fee.

It is easy to start with a web-based imaging server and then, as the usage grows, bring it back in-house. We simply make a tape backup of the out-sourced imaging server and load it on the new in-house imaging server. There is no loss of data and no re-keying of information. Web-based imaging is a good way to get started with imaging with a very minimal budget.

COLD

COLD is one of the most important features of any imaging system, yet it is perhaps the least known. Here is how it works. COLD is used to automatically capture documents that are generated by your own computer system. It is this technology that makes the imaging server look like a standard Windows printer to the other computers on the network. This means any print job that can be sent to a printer to be "printed" directly to the imaging server without any manual scanning or indexing. The production computer thinks it is sending out a print job to a network text printer. There are no changes on the production computer side.

COLD can not only capture printed documents electronically, it can also index them automatically. Because the inbound print job is just ASCII text, we know that certain fields will always be in a certain place. We know that the invoice number will always print in the same location, the invoice date will always print in the same location, the customer number will always print in the same location, and so on.

A COLD "template" is created that tells COLD which fields to extract for the index, where those fields are located, how to name the folders and documents, and where to store the pages. A template can capture a vast amount of indexing information with no manual data entry. As soon as the print job is completed, all the pages will be in the imaging system, all indexed, organized, and stored in the appropriate folders.

With COLD, it is possible to reprint any data that is in the production system. For example, if you have three years of invoices still on your accounting server, they can all be "printed" to the imaging server using COLD. This lets the imaging system capture and store many years of information with no manual effort.

Since a COLD document is just standard ASCII text, it is fully text searchable. Some clients use COLD to capture the various day-end or monthly reports. Instead of printing multiple copies of large, bulky reports, one copy is sent to COLD. Those who need information from those reports can use the imaging system to search for the particular pages that contain the information that they need, such as a customer number, or a SKU number for example. They can print out those specific pages instead of the entire report. These features make COLD one of the most powerful components of a document imaging system.

Indexing

One of the key features of **IMIGIT™** is its powerful indexing tools. Unlike many other imaging packages, **IMIGIT** does not require an external database. There is no need to purchase, license, or maintain a third party database. Everything that is needed is contained in the **IMIGIT** system itself.

The indexing structure in **IMIGIT** is very flexible. A typical 4GL database requires that all records be indexed in the same way. There may be an index A, and index B, an index C, and so on. There can be as many indexes as needed, but every record must follow the same indexing rules. While this works in most cases, there are times when additional or different index information would be helpful for a particular type of document. There are also times when it would be helpful to have a new index field. These situations are not easily solved with a traditional database structure.

With **IMIGIT**, there is no problem at all. Since **IMIGIT** does not rely on an external database for its indexing, it has much greater flexibility in how it handles its index information. Within **IMIGIT**, all of the indexes are "free-form" indexes, meaning there is no fixed structure or pattern that must be followed. Each folder, each document, and even each page can be indexed in any way that might be useful. One document might have three key words, while the next document might have ten key words. It does not matter at all. This important indexing feature allows the users to add as much or as little information as is appropriate in each case.

Because of this flexibility, it is also possible to add, change, or delete index information on the fly. With a traditional database, it often requires a programmer to set up a new index field. Then, before the database can be used, it has to be shut down and the index structure rebuilt to reflect the new index field. With **IMIGIT**, it is much simpler. Any user with appropriate authorization can add a new index key word at any time, even while other users are on the system. They can also change an existing index key word, or even delete it completely. All this can be done on a live system with no requirement to do a shutdown or a rebuild. As soon as the addition, correction, or deletion has been made, it is immediately available to all other users.

Search Capabilities

IMIGIT™ has very powerful search tools. When a search is launched, up to ten different search criteria fields may be used. Much like a Google search on the Internet, the more search terms used, the more targeted the search results will be. The fewer the search terms used, the broader the search results will be. The search fields include folder level indexes and creation dates, document level indexes and creation dates, page level indexes, and page level text searches. These search criteria can be used one at a time or in any combination.

When a search is launched, every folder, every document, and every page in the imaging database is checked. This allows the database to be viewed in many different ways when looking for data. For example, you may wish to find all invoices for a given customer, or all invoices within a certain date range, or all invoices that contain a particular SKU number. Boolean searches using "and",

“or”, and “not” are supported and wildcards may be used. In addition, a fuzzy or inexact search feature helps locate items that are similar to but not an exact match with the search criteria.

Printing

Any image in the imaging system can be sent to a laser printer. It doesn't matter where the laser printer is located as long as Windows knows about it. Imaging can send a print job to any of the Windows network printers. This allows a document to be sent to the printer that is nearest to the user who needs the information. The printer may be located in the same office or in a different office entirely, as long as it is on the same network.

Faxing

Any image in the system can be sent out directly as a fax. A full-featured fax server is included as a standard part of our imaging software. All of the fax tools, such as a fax phone book, cover sheet options, send timing, and fax logs are available from within the imaging software. Each fax request is queued up just like a print job is. As soon as the fax modem is available, the next fax is sent out. This feature allows information in the imaging system to be sent to virtually any place in the world. All the recipient needs is a standard fax machine.

Documents can also be faxed directly into the imaging server and can be automatically captured and stored. Batch faxing is also supported. This means that multiple documents can be sent out to different destinations. For example, some of our clients use this feature to fax monthly statements to select customers rather than mailing them out.

E-mailing

Any image in the system can be sent out as a PDF attachment to an e-mail. Imaging currently supports Outlook and Outlook Express. To email a document, select the page or pages that you want to send and click on the Email button. This opens up a new Outlook session, converts the selected page or pages to PDF format, and adds the PDF to the email as an attachment. All you need to do is to fill in the address and subject lines. Many clients now email all of their invoices and statements directly to their customers rather than printing paper copies, stuffing envelopes, and sending them out in the mail.

Annotation

The primary rule in imaging is that the original image cannot be changed. We want to be sure that the image that is displayed exactly matches the original document. No changes are allowed to any image. However, there are times when it is helpful to add notes or other types of annotation to an image.

Our imaging software provides a number of annotation tools. These tools include underlines, single line text, a block out tool to hide confidential information, and a "sticky note" tool. The sticky note tool allows the user to enter and store one or

more notes of unlimited size as a part of the document. This is often used in collection departments, for example, to log what was said during telephone conversations with a customer.

Note that adding annotation does not in any way change the original image. Adding annotation is like putting a sheet of plastic over the image and then writing on the plastic. The plastic can be removed and the original document is still unchanged. This is how annotation works. The annotation is associated with the image and can be placed on top of the image, but it does not change the image.

Signature Capture

This module provides tools for the capture of delivery documents signed by the customer. If your business needs a signed proof of delivery document as a normal part of your collection process, signature capture is the tool to use. Signature capture allows you to scan the signed delivery tickets, and match them up with the corresponding electronic copy already in the imaging system.

By matching up the scanned signed copy with the original electronic copy, we eliminate the need to do any manual data entry of index fields. All that has to be done is to link the scanned copy back to the electronic copy, which already has all of the index fields. Once this process has taken place, searching for a particular invoice number will return not only the original electronic but unsigned copy, but also the signed copy of the invoice.

This process also provides a management tool that helps identify any signed copies that were not returned to the office. After the daily scanning process is completed, the Signature Copy Exception Report can be run. This report lists all of the invoices that were received electronically and shows which of them have an associated scanned copy. If an invoice shows no scanned copy, that means that there is a missing proof of delivery document.

Imaging Modules

The **IMIGIT**[™] software contains the standard imaging components, including modules for scanning, indexing, search and retrieval, printing, faxing, e-mailing, annotation, and security. There are several optional modules that are available. Please see the Modules page for more detailed information.

Additional User Licenses

Each **IMIGIT** installation requires one server license and one or more user licenses. The licenses reside on the server and are concurrent licenses. This means that they are shared by everyone and are not limited to specific users. For example, if there were 5 user licenses, the first five people who log on to the imaging system are given access. When the sixth person tries to log on, they get a busy signal. As soon as someone logs off, then someone else can log on. More user licenses can be added at any time and in any quantity.