



The Intersection

A Newsletter for the users of Intersect Systems Retention Schedule Manager software systems and Records Control and Management software systems

Grand Prairie, Texas

Spring 2005

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Electronic Image Formats: tif or pdf files?

In February 2005, Intersect Systems announced a new Version 2 of the Intersect Image Manager for managing electronic images with the Intersect RCAMS records database system. Version 2 has two significant additions to the original Version 1 introduced just over a year ago.

First, several additions have been made to the capabilities for managing image files during the indexing process, allowing the user as an option to index images from a temporary or working directory, and to specify the destination directory of the indexed images. As the indexing process completes, it moves the indexed image files to the specified permanent location. Images can also be indexed “in place” when they already reside in a permanent location.

A second addition requested by several Intersect users adds support for the Adobe® .pdf image file format, allowing the user to index, manage, view, and print images in formats including .tif, .png, .jpg, .gif, .bmp, .pcx, and now .pdf. All of these image file types can be indexed into the RCAMS records database, allowing an organization to use RCAMS to manage paper, microfilm, and electronic images.

As Intersect representatives considered the possibility of supporting the .pdf file format, and as we reviewed the .pdf options with a number of records managers and software specialists, we found a surprising range of opinions about the desirability of the .pdf file format for electronic records. It is a discussion that seems to be ongoing in the technical and records management communities. As we accumulated information and opinions, we felt that a summary of some of these would be of interest to our users, and merited a write-up in *The Intersection*.

First is the question of .pdf being a proprietary format. The .pdf name is derived from the term Portable Document Format, and it was developed and is copyrighted by Adobe Systems Inc. The copyright includes the specification, the data structures and operators, and the written specification constituting the portable document format. Adobe’s position on their copyright, as they state in their *PDF Reference, 4th Edition*, is that “Adobe will enforce its copyright” with the intention of “...maintaining the integrity of the PDF standard...” to keep it distinct from other interchange formats. However, Adobe gives users and developers copyright permission to use the .pdf format, subject to certain conditions specified in the Intellectual Property section of the *PDF Reference* (the document is available for download from the Adobe web site at www.adobe.com). These condi-

tions generally have to do with preserving the integrity of the .pdf format and maintaining the format as a standard among various users, applications, and systems.

Another question that has been raised by some records specialists concerns the nature of the .pdf concept itself. To understand this, consider that the .tif image format — the most widely used format for electronic images — is a bitmap; that is, it is similar to a photograph in that the original image is mapped or copied onto an array representing thousands of individual displayable elements. (A photograph is created by optically capturing an image on a piece of film with a coating that represents a kind of bitmap.) The .tif bitmap contains color and brightness information for each “bit” in the map array that allows the bitmap to be re-drawn on a computer display, or reproduced on paper by a printer.

While images in the .pdf format can include bitmaps in some instances, central to the .pdf concept is the process of capturing and saving the information needed to re-create a document on demand, as opposed to capturing a detailed bitmapped representation of the original document. To further explain this, consider a document that is created on a computer using Microsoft Word. With Adobe’s Acrobat software, the user can create a .pdf file directly from the Word document file. However, instead of a bitmap, the .pdf file contains the elements, including the character information, line spacing and placement, paragraph indicators, pagination information, etc., necessary to recreate the original document using the functions included in the Adobe reader software. Of particular note is that the actual font used will be embedded in the .pdf file for use in recreating the document. (If you’ve ever had the experience of providing a Word .doc file to someone who printed it on a different computer system without the font used in your original installed, you’ve probably noted that the reproduction is not an accurate representation of the original, and can vary considerably in some instances.)

This aspect of the .pdf format underscores the remarkable technical achievement of the Adobe portable document concept; a document can be reliably reproduced in its original format regardless of the system being used — Windows, Apple Macintosh®, or one of the other supported systems. However, it is also the basis for some caution on the part of some individuals and organizations with respect to long-term archiving of electronic (Cont. page 4)



Focus on: Tarrant County Records Management Fort Worth, Texas

Installations of Intersect Systems' records management software systems continue to grow in Local Governments and state agencies not only in Texas, but also in other states including Florida, California, Pennsylvania, South Dakota, New York, and Georgia. Since the publication of Clark's *Encyclopedia of Records Retention* in digital format in 1999, that growth has also included commercial businesses, including several Fortune 500 companies. This growth reflects a wider range of users both in size and geographic location, contributing to a broader diversity of experience with records management needs among our customers – large and small, government and commercial – in different parts of the US.

Users of Intersect's records management software have proven to be a significant resource for suggestions and ideas for improvements and additional features. For the past several years, most of the additional functions and new features that Intersect has developed have been the result of suggestions or requests from customers.

One of the early installations of Intersect's records management software, installed in the mid-1990's, was in Tarrant County – today a long-term and experienced user of the Intersect Systems Retention Schedule Manager (RSM) software and Records Control and Management System (RCAMS) software. The Tarrant County Records Center maintains a records inventory of over 140,000 cubic feet, including over 110,000 containers managed with the Intersect RCAMS system. The records center provides services to 34 different end-user departments in the county.

Located in north central Texas, Tarrant County is one of the fastest growing urban counties in the US, with a population of over 1.5 million citizens. Tarrant County encompasses the major cities of Fort Worth and Arlington, as well as numerous smaller cities.

Workflow Enhancements

In the summer of 2003, Larry Vick, Records Management Officer for Tarrant County, suggested to William Gattis of Intersect that several additions to the RCAMS system in the area of workflow

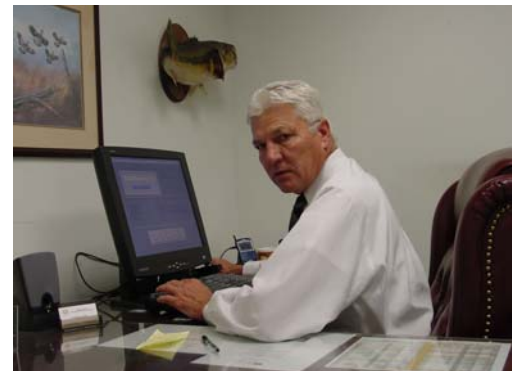
management would be useful to the county. Vick's experience in records management, and his extensive experience with computing systems going back to the mainframe era, gave him a unique perspective on computing systems and applications; Intersect was interested in the opportunity to work with a major organization in implementing workflow concepts that would enhance the RCAMS system, and that could be implemented and tested in a large, real-world operating environment.

Accession and Accession Monitor

Discussions with Larry Vick extended over a period of several months, and focused on the need to improve the efficiency of the large Tarrant County records operation with software that would operate and be compatible with the Intersect RCAMS records management system. These discussions led to several proposals by Intersect to Tarrant County, and eventually to the concept of Intersect's *Accession* and *Accession Monitor* functions. These are designed to provide a workflow environment for records management designed to engage various departments in an organization more directly in the re-



Records Center Staff — front row from left: Oliver Evans, Randal Escobar, Barbara Baldwin, Joyce Crowder; back row: Larry Vick, Bryan Scribner, Jeremy Gallagher.



Larry Vick, Tarrant County Records Manager



D'Anne Conn and Chester Slaughter at RCAMS computer station

ords management process, leading to a more productive and efficient operation.

Under the old Tarrant County system, the Records Center would receive requests from departmental customers via the internal mail system, or on some occasions by FAX. The records technician would manually fill out a "Records Out Form," locate the container and record from the descriptive information provided by the customer, pull the record, and place the form in the box where the record resided.

Records technicians would then complete a "Records Request Form" to be maintained in the Records Request file, and deliver the record to the customer.

Under the old system, it was not uncommon for a customer to request a record that had already been checked out. The old manual system did not adequately track records that were out, and therefore the technician would have to actually locate and pull the container for a desired record to discover that the document had already been checked out.

The Intersect Accession function was developed to operate seamlessly with the Intersect RCAMS records management system to simplify this (Cont. page 3)

Tarrant County (cont.)

process, and to make the process of requesting and filling requests more efficient for both the customer and the records center.

Direct Departmental Access

The Intersect *Accession* module allows each department direct, read-only access to the portion of the RCAMS Tarrant County records database that contains that department's records. The various Intersect functions developed over the years and incorporated in the full RCAMS records system to facilitate locating containers and documents have been incorporated in the Accession module in order to accomplish this. The customer can search on any field for the desired descriptive information to locate a document, or set up a user-friendly query to display those containers meeting certain criteria such as a particular record series title, case number, or similar information. A multi-step query function allows quick and easy drill-down to narrow the container list to the one desired, typically taking no more than two or occasionally three steps. Further, frequently used queries can be named and saved by the customer, and re-run when desired by clicking on the saved query name, without having to reenter the query parameters.

A second feature of the Accession module allows a department, having located a desired container and document, to click on a "request" button to request the document from the Tarrant County Records Center. The request is sent immediately over the LAN or WAN network connection to the records center, where the request is displayed on a system running the Accession Monitor that monitors all such requests. The request is also printed out immediately, with the location of the container already identified from the information in



Vick at Master Configuration Chart for Tarrant County Records Operations

the RCAMS database.

The records technician pulls the record from the designated container, and then clicks on a "Check Out" button for that particular request in Accession Monitor, which adds the record to a list of those checked out, sets a due date, and prints a "Records Out Form" containing all of the necessary information.

Since the Intersect RCAMS database keeps a record of documents that have been checked out, and the associated containers, the problem of multiple requests for the same document is addressed automatically. If a customer requests a document from a container that has records checked out, a list of those records, the due date, and the requestor is displayed for the customer to review in order to eliminate duplicate requests.

Records Transmittals

Another feature of the Accession module allows a department to enter their own container records, and to transmit these directly to the Records Center Accession Monitor for review and assignment to a space in the records center. After review, the transmitted entry can be moved to the live RCAMS records database. This capability distributes data entry tasks, reducing the workload for keyboarding in the Records Center. A feature of Accession allows any existing container entry to be selected to use as a template for any new container, modified as necessary, and then used to create one or many additional similar containers, greatly reducing the amount of keyboard entry required by the originating department.

The Accession / Accession Monitor sub-system for the Intersect RCAMS records management system is currently in the latter stages of implementation in several departments in Tarrant County.

Chester Slaughter, Records Analyst and key project coordinator, has developed an internal training and user guide specific to Tarrant County's operations, and is preparing for a general roll-out of the Accession sub-system to other departments in early 2005.

Slaughter is also working to customize departmental control schedules using Intersect's Retention Schedule Manager (RSM). These customized control schedules allow



Bryan Scribner retrieving a document at county's Mueller Records Facility

each department to have a list of just the records that that department is responsible for – typically a half-dozen or fewer pages – as opposed to the entire Tarrant County control schedule set, which runs to well over two hundred pages. The control schedules created with RSM are integrated with the RCAMS records database, so that the retention parameters are automatically available when entering new container records.

After reviewing the initial operation of the Accession and Accession Monitor modules with selected departments, Larry Vick estimates that the system will save the county over fifty-two person-weeks a year when the system is in full operation.

Global Editor

Another example of the cooperative effort between Intersect and Tarrant County led to the Intersect Global Editor module, and refinements to (Cont. page 4)



Retention requirements met, four thousand containers are assembled to be destroyed

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Intersect Systems Inc. has a number of ongoing software development projects, as well as a continuing series of updates and enhancements to existing software applications. For more information on Intersect software for Retention Schedule Development and Management, software for Records Control and Management, to discuss your software requirements, or to discuss current software development and software enhancements, contact Intersect Systems at the address, telephone number, or e-mail address listed above.

Intersect Systems Inc. is a registered Information Systems Vendor (CISV) in the state of Texas, specializing in software for records retention and for records database management. For more information, contact Intersect Systems Inc. or visit Intersect's web site at www.intersectsystems.com.

About Intersect Systems ...

Intersect Systems Inc. is a Texas corporation, founded in 1993, dedicated to the design and development of innovative computer software systems and applications for retention schedule development and management, and for records control and management, with an exclusive focus on proven approaches and user-friendly systems.

The Intersect Systems design and development team includes top-notch software professionals and consultants, as well as experienced records management professionals.

Intersect Systems develops software applications for both local governments and state agencies to help meet state requirements in maintaining records programs. Intersect also offers specialized software tools for commercial businesses, including *Clark's Encyclopedia of Records Retention*, and commercial versions of its Retention Schedule Manager and Records Control and Management System database. Intersect software applications combine innovative ideas with proven, effective, and user-friendly approaches that produce results in the critical area of records management.

Records Consulting Services

Is your organization planning to expand or upgrade your records management program, or designing or expanding a records storage facility? Do you need assistance in creating a local Records Control Schedule, or in developing a records management policy for your organization? Are you evaluating imaging systems?

Mr. Joe Harry offers consultation and assistance in these and related areas of records management to local governments and businesses in North Texas. With over ten years of experience in the field, Mr. Harry can help you with your records management program. References available on request.

Mr. Harry can be contacted at (817) 274-8487.

Local governments and businesses that have failed to establish and maintain credible records management programs can find that they are at a serious disadvantage in a lawsuit. The inability to produce documents during the discovery process, and the inability to explain the circumstances and authority under which documents were destroyed, can have serious consequences in a lawsuit. Judges have been known to enter default judgments against defendants due to faulty records management practices.

Tarrant County (cont. from page 3)

meet the real-world needs of a large organization such as the county. Over the years, with over 110,000 containers in the records system, and with data entry often accomplished in past years using Excel or raw desktop databases, entries such as record series titles and other descriptive information were not always consistent. Spelling variations in names and different wording in descriptions can sometimes make it difficult to locate specific entries. As the legacy data was moved into the RCAMS database system, Joyce Crowder, Records Center Manager, used the Global Editor to edit the RCAMS database to make all entries consistent. Global Editor makes this easy by allowing single entry edits to apply to multiple selected records, and it also provides a unique Mask Edit function that allows the user to selectively modify multiple fields in one pass if desired.

Recently, while scrolling through the Tarrant County RCAMS database at a computer station, Larry Vick pointed out the "extremely clean, consistent records entries" in the massive database as a result of Crowder's efforts and the capabilities of the Global Editor.

Image Formats... (cont. from page 1)

images in the .pdf format. As opposed to a relatively straightforward bitmap, the .pdf process is sophisticated and complex. The ability to decode and display a document file in .pdf format created in 2005 with Adobe Acrobat 7.0 in four or five years with the then-current version of Adobe's Reader is not in question. But what about records that must be preserved and be accessible for twenty-five, fifty, or more years? How certain can anyone be that the software and system tools to allow this will be reasonably available then? Some records specialists argue that the .pdf format is useful for electronic documents that must be retained and be available for relatively short retention periods — perhaps the next ten years or so — but that longer-term retention requirements may be a concern. (An interesting article on this subject, *Should PDF Be Used for Archiving Electronic Records*, by John T. Phillips, CRM, is available for download from the ARMA web site. It is free to ARMA members, and costs ten dollars for non-members.)

Document security is an increasing concern among records managers in an era of HIPAA regulations and other confidentiality requirements. An attraction of the current Adobe Acrobat versions 6 and 7 are the Document Security provisions offered, including password security and encryption. Password security can not only prevent unauthorized individuals from opening and viewing a document; several lev-

els of password security can control printing (allowed or not allowed); the quality of the print copy (can be restricted to low resolution reproduction); preventing any changes to the document; and enabling or prohibiting copying of text, images, or other content.

Digital signatures are supported in newer versions of the Adobe system. Digitally signed .pdf's can be created, preserving the date signed, and insuring that the document has not been altered since the signature was applied. A validation process allows the recipient to validate the signature on a digitally signed document. An encryption process is also available, and allows a .pdf document to be encrypted for certain identities, ensuring that only certain persons can open and view an encrypted .pdf document.

The addition of .pdf support to the RCAMS system offers users their choice of any combination of the popular image file formats based on these and other considerations.

These are just a few of the areas of interest regarding document image formats. A second installment of this article will be published in a future edition of *The Intersection*.

Users of Intersect Systems retention schedule development and records management software can publish records control schedules, as well as all or part of their records database, on the Internet or on a private intranet.