

# ARMail

Central New York

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## Digital Imaging *by Adam Stone*

As we prepare for our March meeting on Digital Imaging we are pleased to offer this short article as background information. Thanks go to Adam Stone, Desktop Support Specialist, Advancement Services, Syracuse University, for permission to reprint this work which may also be found on the web at: <http://web.syr.edu/~adstone/digitalpics.html>

### Digital vs Analog Photography, Film and CCD

The digital imaging process captures images as “pixels” onto a chip called a ccd (charge coupled device). These pixels are simply squares that can be different colors. The result is raster image.

This differs greatly from film, which uses a chemical process whereby film is exposed to light and changes colors in a smooth organic line. Digital raster images are limited by the number of pixels captured, a limitation that is not directly mirrored in film.

You can see this clearly illustrated in Figure 1 at the right, it has been expanded so that the individual pixels are showing.

### Raster vs Vector Images

A raster image is simply an image that is made up of pixels, this means that if you attempt to expand the image too much you will start to see the individual colored squares, (see above). A vector image (like



Figure 1. Pixilated image.

Vectorworks, Autocad, Adobe Illustrator, etc.) is an image made up of mathematically calculated lines. These can be stretched to infinite size and retain their sharpness no matter the size. Vector images are often used for creating signs, logos, or

blueprints. However digital cameras and scanners cannot capture vectors, they must be created by software.

This is illustrated in the following vector graphic which scales without any loss in resolution. (see the scaling example on the web site listed above).



Figure 2. Vector graphic.

### What is DPI?

This is the number of pixels, or colored squares PER INCH in a raster image. This is crucial when you are dealing with target output. It should be noted that any raster image is made up of a certain number of pixels; therefore DPI can be manipulated simply by making the image's size smaller and larger without altering the number of pixels

*Continued on page 6*

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Message from the President, Patricia C. Franks

***To Image or Not To Image ... That Really is the Question!***

Imaging," provides some very technical information in an interesting and easy-to-understand manner. Once you read that, you'll understand the differences between digital and analog photography and raster and vector graphics. You'll also understand the importance of selecting the correct file format and compression level for your particular purpose.

In addition to storing photographs, imaging—in this case document imaging—is also an important tool used to store and retrieve traditional paper documents.

*Document imaging* is the process by which print and film documents are fed into a scanner and converted into electronic documents. The new, electronic versions can then be searched and retrieved easily through the use of an internal network or over the Internet.

Many industries benefit greatly by the use of document imaging solutions. Two examples are education and healthcare.

Educational institutions are faced with the challenge of keeping track of hundreds or even thousands of students. The information is used to follow the student's progress through the institution from application through graduation and beyond. The information is also used to generate reports for research grants and

internal and external reviews. Document imaging makes file management and access to information easier and faster.

The healthcare industry faces a similar challenge as it attempts to keep track of patients. Among other uses, this information is essential for audits and insurance inquiries.

Document imaging can be used to bring together patient information from a variety of sources, such as labs and imaging centers, to offer those responsible for treating the patient with a paperless medical record.

Document imaging itself is not Electronic Records Management, but it facilitates Electronic Records Management by converting a variety of records types into electronic images that can be integrated with an Electronic Records Management system. However, imaging is not a panacea.

Find out if Digital Imaging is right for you by attending our March 8 meeting. David F. Lowry, CRM and Region 4 Advisory Officer for the New York State Archives will explore the advantages of implementing an imaging system and help you recognize the unforeseen costs and pitfalls involved in undertaking a large scanning project.



***CNYARMA Treasurer's Report***

*Submitted by Edward L. Galvin, Treasurer*

February 1, 2006

**Balance as of 12/17/05 ..... \$ 4856.28**

**INCOME:**

Escrow (Membership) ..... 35.00

**Total Income ..... \$ 35.00**

**EXPENSES:**

None

**Balance as of 2/01/06 ..... \$ 4,891.28**

Meeting in Review

# Electronic Records Management - DoD 5015.2-STD

by Pat Markley

William M. Manago, Jr., is Vice President of Records Management Best Practices at MDY Advanced Technologies, Inc., and worked 25 years for the U.S. Department of Defense. At the DoD he coauthored DoD 5015.2-STD (“Design Criteria Standard for Electronic Records Management Applications”) and started the Records Management Certification Test Facility at the Joint Interoperability Test Command. The Joint Interoperability Test Command tests and certifies software products according to the DoD Standard. At this meeting of CNY ARMA, Mr. Manago reviewed the purpose, development, and use of the DoD Standard.

DoD Standard 5015.2-STD was developed as part of a response to Congress’s demand that the Department of Defense improve its recordkeeping. The Standard was

written to define what was needed from electronic records management software. It was written by records managers and targeted at records management software vendors. Mr. Manago pointed out that the Standard was designed to be a functional standard, not a technical standard; i.e. it tells vendors what functionality is required, not how to provide it. A second point he emphasized was that, although called the DoD Standard, 5015.2-STD is not limited to defense-related use – it can be used by all records managers in any field. He described the Standard, which includes 147 required and 32 optional elements, and went on to explain some of the reasoning behind the requirements. The Standard covers all areas of concern for electronic records management: the corporate file plan, retention schedules, filing records, preserving record content, searching and retrieving, recording activity,

retention screening, disposition, legal holds, controlling access, keeping an audit trail, and system management.

Mr. Manago demonstrated the Joint Interoperability Test Command’s website <http://jitc.fhu.disa.mil/>, where there is information on the certification process and a product register of DoD-certified software. For a software product to be DoD-certified, it must meet all of the requirements of the DoD Standard 5015.2-STD, but products can still differ because how they provide the functionality is not defined. One product may provide the functionality in a more user-friendly way or may provide more than the minimum functionality required, while another product does not. Mr. Manago described the process of testing software for certification and how records managers can use the summary and detailed reports on each product to choose the best software to meet their organization’s particular needs.



**ARMA’s Standards Development Committee is dedicated to providing accurate information to members of the RIM**

**profession by developing ANSI standards, technical reports, and guidelines that address the evolving world of RIM. To learn more about ARMA’s Standards Development Process and find out how you can become involved, visit ARMA’s Standards page at <http://www.arma.org/standards>**

### Call for Nominations & Volunteers:

THE CNY Chapter of ARMA is looking for a few good people willing to make a commitment to bringing quality and relevant educational sessions and networking opportunities to the membership. March is the time of year when we seek nominees to the CNY ARMA Chapter Board of Directors. Requirements include an up-to-date membership in ARMA International and the CNY chapter, ability to work in a team environment, a commitment to our profession, and a good sense of humor! Time invested is minimal, but the rewards are many.

To nominate someone or to express your own interest, please contact Eileen Keating, Jackie Lewis or Dianne Hagan.

*Board Spotlight*

*Pat Markley*



I've lived in several states, but have spent the most time in Virginia and New York, where I've lived in Albany for the past 12 years. I'm a librarian at Siena College in Loudonville, where I have responsibilities in Interlibrary Loan, Reference, Library Instruction, Collection Development, and until recently, Records Management. I also maintain a bibliographic database of all of Siena College's faculty publications and presentations.

When I was charged with creating a records management program at Siena College a few years back, I knew nothing about records management and needed all the help I could get. I consulted with Eileen Keating (Cornell) and Ed Galvin (Syracuse), who were both most supportive. Shortly thereafter I began

attending the Central New York ARMA chapter's meetings and joined ARMA. I also am active in local and regional library professional associations: the Eastern New York Chapter of the Association of College & Research Libraries (ENYACRL), the Capital District Business Librarians Group, and the Committee on Interlibrary Loan through our local 3Rs council.

Besides my professional work, I am most involved with fostering homeless cats and kittens for AnimaLovers, a no-kill rescue organization in the Capital District. My sister and I foster all kinds of individual cats and even entire litters, but we get special satisfaction from helping under socialized and feral kittens get accustomed to human contact.

*by Patricia (Pat) Markley*

**CRM**  
**o**  
**r**  
**n**  
**e**  
**r**

If you want to give yourself an edge in the Records Management field, you should consider adding the letters CRM at the end of your name by taking and passing the 6-part Certified Records Management Exam. If you're wondering what the first 5 parts of the exam are like, try the questions below. They're taken with permission from the Certified Records Management Examination Handbook. For more information about the Institute of Certified Records Managers or the CRM program, visit <http://www.icrm.org>.

**PART 1 Management Principles and the Records & Information Management Program**

1. Which of the following is not a benefit of a successful records management program?
- Boost in employee morale.
  - Decrease in employee mistakes.
  - Elimination of supervisory responsibility.
  - Increase in work output.
  - Increase in work quality.

**PART 2 Records Creation and Use**

2. Which of the following best defines the scope of a business report?
- Goals.
  - Purposes.
  - Collateral objectives.
  - Boundaries of problems.
  - Previews.

**PART 3 Records Systems, Storage, and Retrieval**

3. A chronological index would be most appropriate for:
- historical events.
  - purchase orders.
  - book titles.
  - taxonomy files.
  - engineering drawings.

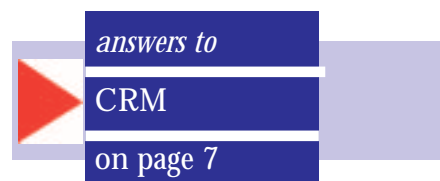
**PART 4 Records Appraisal, Retention, Protection, and Disposition**

4. Production schedules and budget reports are examples of:
- future information.
  - historical information.
  - internal information.
  - non-recurring information.
  - all of the above.

**PART 5 Facilities, Equipment, Supplies and Technology**

5. A large flatbed camera used primarily to microfilm engineering drawings and other large documents is the:
- processor camera.
  - planetary camera.
  - rotary camera.
  - step-and-repeat camera.
  - Polaroid camera.

*by Patricia C. Franks, Ph.D., CRM*





# When it comes to document management, the best solution is a total solution.



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**Digital Imaging**

*(Continued from page 1)*

in it. You cannot “create” more pixels than you already have, in other words, if you have an image that is 1024x768 pixels, you can try to make it larger, but when you do the computer will perform a process called “interpolation”. What this means is that the computer will try to fill in the blanks with pixels that it thinks are right. This almost always delivers terrible looking images. The two eagles below show interpolation, the one on the left was created at the size and DPI displayed, the one on the right was interpolated from a smaller image. Note the loss of detail.



*Figure 3. Created at size displayed.*



*Figure 4. Interpolated from smaller image.*

**Compression what and why?**

Digital images can be compressed. This somewhat reduces their clarity but greatly reduces their size. This is especially important when delivering images over the internet.

Figure 5 is an example of what happens when you compress a JPEG too much. Compare it to the less compressed partner above, note the “fuzzy” look and missing color information.

**File Formats: JPEG, TIFF, BMP etc.**

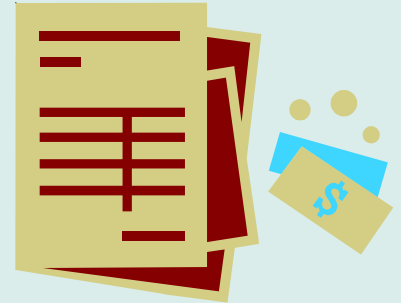
These file formats are used for different purposes, JPEG is the most common standard [for pictures on the Web], but it is inherently compressed and therefore can be less accurate than an uncompressed TIFF. If you are working on the web or in some print situations, JPEG will suffice. When working in high resolution printing, one would use TIFF or another uncompressed format.

**Acquiring images and Target Output**

*What is target Output, why is it important to know what I’m going to use it for?* Target output is simply “what are you going to use this image for?”. For

*Continued on page 7*

**Capturing Healthcare**



ARMA often works with other associations to bring information of value to our members. AIIM (the ECM association) is one example. As a matter of fact, many ARMA members are also members of AIIM. On Wednesday, March 8, 2006, AIIM is broadcasting a free Webinar that relates to this month’s topic of digital imaging.

A description of the Webinar, *Capturing Healthcare*, is provided below:

EOB forms. HIPAA signature documents. Claims. Customer information. Invoices. The healthcare industry is awash in paper and forms. Advances in software (such as improved recognition for unstructured forms) and hardware (low-cost, dependable desktop scanners as well as document scanning-enabled MFPs) now enable doctor’s offices, insurance companies, hospitals - anyone connected to the healthcare industry - to streamline and control their handling of these documents. Find out how you can speed your billing process using document scanning and capture tools. Learn how to extract invoice data in mixed batches of documents. Maximize the utility of your EOB forms.

The Webinar will be broadcast from 2-3 p.m. (EST) and will last 60 minutes. If you’re interested in more information or would like to register, visit the following page: <http://www.aiim.org/webinars/webinars.asp>

**Digital Imaging**

*(Continued from page 6)*

instance, if you are going to send an image via e-mail to a consultant who is viewing it on screen, then you will want a certain number of DPI or Pixels per inch. However you will



*Figure 5. Compressed JPEG.*

want a different number of DPI for a piece that will be printed. Please see the handy dandy table below for a quick guide to common outputs and DPI ranges.

Target	DPI Range
On screen viewing, web page, etc.	72-96
Powerpoint	72-96
Small format printing (11 x 17 or smaller)	250-600
Large format printing (11 x 17 or larger)	150 - 250

**Note:** As size increases (i.e. 34x44 image), you can go down on dpi, as the image will generally be viewed from farther away and therefore a “Monet” effect is acceptable. Conversely, with a smaller image that will be viewed more closely, (i.e 5x7 image), you will want more tightly packed pixels. When attempting to print very large images, even at lower resolutions, file size can get very large, this causes printing time to be very high.

*Before you image ...*

Answers to  
CRM  
questions on  
page 4

1.c.  
2.d.  
3.a.  
4.e.  
5.b.



*consider the alternatives!*

**Disclaimer Notice**

ARMAil is published at least five times during the fiscal year. Readership includes members of the Central New York Chapter of ARMA International, as well as interested records and information management professionals in the central New York area. The information contained in this newsletter does not necessarily reflect the views of the membership or the editor, nor is there any endorsement of advertisements or published seminar information. This newsletter is offered only as a source of information.

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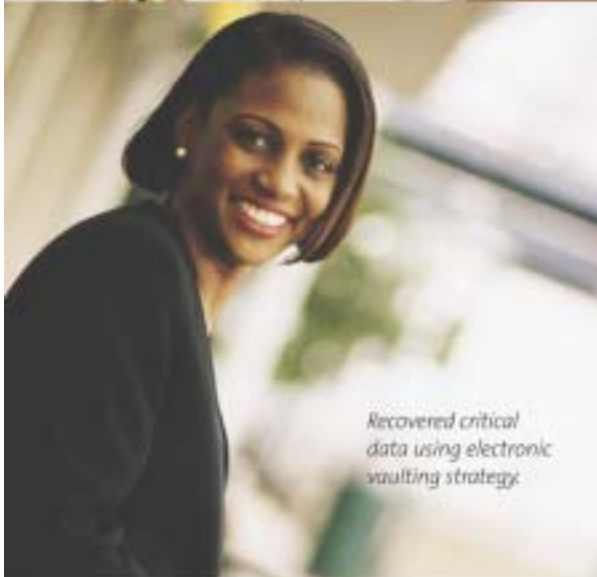
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