

## AUTOMATION—ELECTRONIC IMAGING

# EIM Support Frameworks, A Statewide Perspective

This article focuses on the New Jersey State government's view of electronic image management (EIM) as an information resource management tool, and the efforts that New Jersey has made to foster and support the use of this tool. The discussion touches very generally on the elements that are included in an EIM support framework and specific products that New Jersey has developed to provide a tangible foundation for the framework. The concluding section contains prescriptions for developing EIM support frameworks. New Jersey's experiences provide illustrations for the various points made throughout the discussion.

By JAMES J. FRUSCIONE, CRM

For the past four years, the New Jersey state government has recognized and used electronic image management (EIM) as a strategic information resource management tool. Innovators within our Divisions of Commercial Recording, Pensions and Taxation have implemented large-scale EIM applications at the state level. Moreover, several state agencies are currently considering the implementation of new and upgraded systems. The existing and planned systems test the limits of EIM capabilities. Collectively, they address basic image storage and retrieval, transaction processing, text, data, and image integration, remote image access, and many other features.

Through our experiences with these capabilities and features, we have discovered that EIM can yield significant benefits for user organizations including:

- Enhanced records management
  - Faster retrieval speed
  - Greater record/file integrity and accuracy
  - Space savings
  - Labor savings
  - Improved record/file availability
- Improved business capacities
  - Image processing systems incorporated as parts of critical

business workflows  
New possibilities for customer service

Improved customer service  
Increased revenue collection

- Integration of images with other elements of the information architecture (voice, data, and text)
- Improved organizational morale and stature

### EIM SUPPORT FRAMEWORK

While the benefits of EIM are real and substantial, it is important to remember that successful EIM implementations do not just happen. Like any other type of technology, in order to be effective and cost efficient, EIM must be applied in a purposeful and well-planned fashion. Therefore, organizations must establish EIM support frameworks that enable managers and end users to:

- Identify and document EIM needs
- Integrate current and planned EIM systems with mission-critical business and information systems
- Design, specify and develop EIM systems that meet user needs effectively and efficiently through use of project management, feasibility studies, needs assessments, RFP standards, etc.

- Provide for close coordination among concerned organizational actors—e.g., end users, records managers, MIS personnel, procurement officers, budget officers, etc.
  - Provide statutory and regulatory bases for the admissibility of records stored and produced by EIM systems (State and Federal governments)
  - Provide *operational* guidelines for meeting rules of evidence and other legal requirements (all organizations)
  - Develop appropriate internal management planning and control routines that help to ensure effective on-going use and maintenance of existing EIM systems
  - Create research/feedback functions that allow for the analysis of key industry trends, including standards and technological advances
  - Develop consistent procurement processes for EIM hardware and software
  - Address records maintenance and disposition practices, including archival and permanent records storage
  - Provide a method to evaluate the effectiveness and efficiency of installed EIM systems
- Of course, in addition to the ele-

ments listed above, organizations must supply the needed resources—staff, capital and financial, to support effective use of EIM technology.

In large and complex contexts such as those found in many state governments, *formal* support frameworks for EIM technology must be established. To establish these frameworks, organizations must address the elements noted above through development of concrete EIM policies/procedures, and mechanisms that facilitate the application and productive use of the policies/procedures.

The following section highlights New Jersey's on-going efforts to create a coherent EIM support framework. Specific subjects include New Jersey's existing policies/procedures on EIM system planning and acquisition, related training programs, procurement practices, and planned administrative code revisions impacting on EIM.

The various support elements described in the section could be viewed as being most relevant to large and complex governmental contexts. However, any organization can draw from the discussion to tailor its own approach to EIM support.

## POLICIES/PROCEDURES

As noted, the New Jersey State government has been an innovative and aggressive participant in the on-going evolution of EIM and has had large-scale installations in place since 1986.

After the first two years of experimentation with the technology, the initial innovators and champions of EIM realized that more substantial guidance for future users would be needed. Within a year's time, New Jersey addressed this need by developing a policy/procedural system for EIM. The system, embodied in draft Circular Letter ST-89-01, specifies requirements and support resources relating to the acquisition of automated record image processing (i.e., EIM) technology. It addresses many of the support elements listed in the introduction including:

- Methodologies that assist end users in determining the need for EIM and assessing EIM system requirements (feasibility study and conceptual design

guidelines)

- Procedural flow that provides a clear-cut and expeditious path to obtaining mandated approvals from various staff agencies (budget office, information systems group, etc.)
- Provisions for establishing close cooperation among end user and staff agencies
- Provision of specific expertise and guidance from technical personnel in the areas of records management, data processing/office automation, general management, and procurement
- Explicit linkage of preliminary EIM study efforts (feasibility study/conceptual design) with established budgeting/planning and procurement processes to provide for needed resources
- Explicit linkage of EIM development and implementation efforts with required project management responsibilities

It is important to note here that an interdisciplinary task force consisting of EIM users, records managers, data processing specialists, procurement officers and general management consultants developed the Circular Letter.

## TRAINING

To support the use of the policies and procedures discussed above, New Jersey recently developed training programs to assist end users in completing the required feasibility study, the first step in the planning/procurement cycle. It also developed a more basic training program for end users who need to acquaint themselves with the basics of records management before pursuing EIM alternatives. Specifically, the basic training covers routine records management and serves as a prelude to the more advanced feasibility study process. Both programs include pre-printed workbooks, case study materials, classroom instruction, and various exhibits. Moreover, the basic training program includes a video portion that can be integrated with classroom instruction.

## ADMINISTRATIVE RULES

The New Jersey Division of Archives and Records Management

(NJDARM) recently completed a draft of proposed revisions to New Jersey's administrative code (NJAC 15:3 et seq., administrative rules governing basic records management practices). The draft has been circulated for staff comment only and has yet to be released to senior management. Thus, only very general aspects of the draft can be discussed here.

Specific sections of the proposed revisions establish new rules governing the maintenance and disposition of public records stored in automated systems, including EIM systems. Highlights from these sections include the following:

- Permission to use EIM and other automated technologies for daily management of permanent/archival and long-term public records. Archival and long-term storage of *original* records must still be microfilm- or paper-based. This limitation does not signify a lack of trust in EIM media. Rather, it relates to practical organizational concerns such as the inability of the State Archives to accession and manage the media.
- Permission to use EIM and other automated technologies for daily management and *replacement* of short and medium-term public records. Originals may be destroyed in this case.
- Requirements, for all EIM installations, to institute procedural safeguards that:

Insure that EIM operations capture all significant detail shown on original records and that EIM systems can produce accurate and complete reproductions of original records

Allow for expeditious identification, retrieval and use of records stored in EIM systems, as well as for the production of legible copies of original records

Provide for durable EIM media for storing and reproducing original records

Collectively, these proposed rules are designed to provide guidance with respect to basic records maintenance and disposition requirements/practices within EIM and automated records management contexts. They also introduce several principles that

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are vital to the legality (admissibility) of records produced by EIM systems—i.e., procedural safeguards requiring that EIM systems provide for accuracy, completeness, legibility, durability (storage longevity), etc.

### PROCUREMENT PRACTICES

In the procurement arena, New Jersey has taken steps to improve both the request for proposal (RFP) development and bid evaluation processes for EIM.

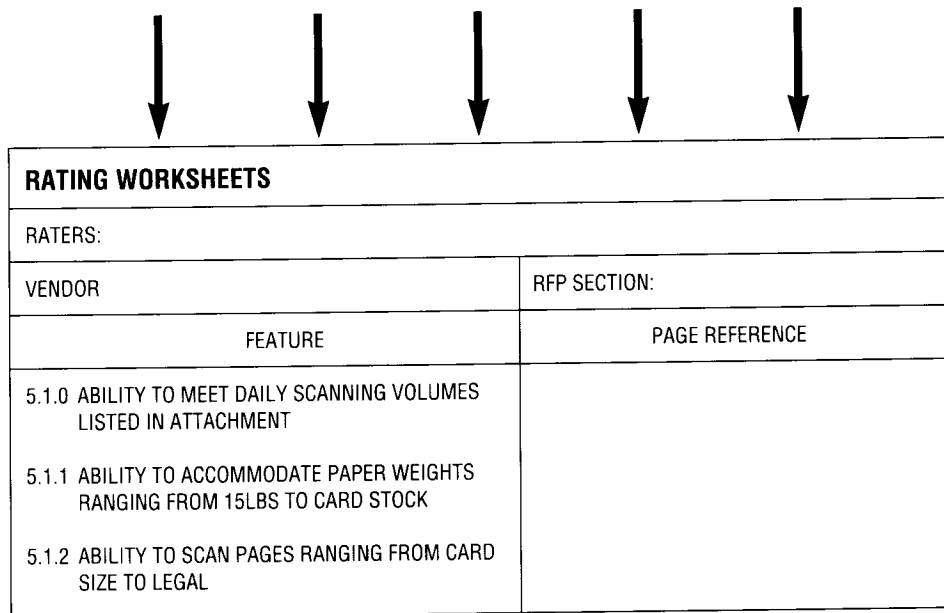
As noted previously, the Circular Letter links procedurally with the procurement process. Also, both the mandated feasibility study and conceptual design exercises are intended to produce information that shapes the scope and content of EIM RFP's—e.g., purpose and intent, technical requirements, etc. To complement this, in its most recent EIM procurement effort, New Jersey developed a method of formatting the RFP and for integrating the format with a subsequent bid evaluation efforts. Specifically, the RFP/evaluation committee subdivided the technical and functional requirements sections of the RFP into major subsystems—e.g., scanning, indexing, communications, storage, etc., and related services—e.g., programming, conversion, etc. (See Figures 1 and 2.) In turn, the committee mapped the sections to a response matrix, and then used the matrix to compare vendor bids on a feature by feature basis. As an optional component, the committee developed weighting and scoring processes that could be incorporated in the matrix if the need to quantify evaluation parameters arises. (The format can now be used in future EIM procurements.)

### PRESCRIPTIONS FOR DEVELOPING EIM SUPPORT FRAMEWORKS

While the items discussed above in no way complete the agenda for constructing a comprehensive support framework for EIM, we certainly believe that they provide a solid foundation to build upon. Other organizations seeking to institute similar foundations may wish to consider the

## RFP SECTION 5.0, SCANNING SUBSYSTEM

- 5.1.0 FUNCTIONAL REQUIREMENT — THE VENDOR MUST DEMONSTRATE AN ABILITY TO MEET THE DAILY SCANNING VOLUMES LISTED IN ATTACHMENT — OF THE RFP
- 5.1.1 TECHNICAL REQUIREMENTS
- 5.1.1 ABILITY TO ACCOMMODATE PAPER WEIGHTS RANGING FROM 15LBS TO CARD STOCK
- 5.1.2 ABILITY TO SCAN PAGES RANGING FROM CARD SIZE TO LEGAL



**FIGURE 1**

SIMPLIFIED VIEW OF INFORMATION MAPPING BETWEEN RFP AND RATING WORKSHEETS, WITHOUT QUANTIFIED RATING FACTORS

following prescriptions, which we developed from our own experiences in New Jersey.

### GAIN TOP MANAGEMENT SUPPORT

It may seem obvious that top management support is essential to the development of EIM support frameworks. Still, it must be reemphasized that without this support, any attempt to institute an organization-wide effort is doomed to failure.

Perhaps a less obvious factor is that in large governmental contexts, and other complex organizational situations, "top management" may consist of a large number of actors. For example, in New Jersey, the task force that developed the Circular Letter had to obtain the backing of the cabinet officers who are responsible for information processing and records management. In addition, to ensure the rigorous implementation of the Circular Letter, the task force

solicited support from key managers (Division Directors) having a statewide jurisdictional interest in EIM system procurement, design and use—e.g., directors of archives and records management, management consulting, systems planning, and procurement. Indeed, the composition of the task force mirrored this complex situation.

Representatives acting on behalf of each of the four directors served on the task force. It could be assumed that efforts aimed at encompassing different branches of government and/or county and local government would involve many more actors.

### INVOLVE OPERATIONAL STAKEHOLDERS

We found that gaining the cooperation of key managers and project specialists who manage existing EIM systems is also essential. Such individuals have a clear stake in any effort to develop EIM support frame-

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| RATING WORKSHEETS   |        |              |          |
|---|--------|--------------|----------|
| RATERS:   |        |              |          |
| VENDOR  |        | RFP SECTION: |          |
| FEATURE   | WEIGHT | SCORE        | WT SCORE |
| 5.1.0 ABILITY TO MEET DAILY SCANNING VOLUMES LISTED IN ATTACHMENT           | 10     |              |          |
| 5.1.1 ABILITY TO ACCOMMODATE PAPER WEIGHTS RANGING FROM 15LBS TO CARD STOCK | 5      |              |          |
| 5.1.2 ABILITY TO SCAN PAGES RANGING FROM CARD SIZE TO LEGAL                 | 4      |              |          |

**FIGURE 2**

SIMPLIFIED VIEW OF INFORMATION MAPPING BETWEEN RFP AND RATING WORKSHEETS, WITH QUANTIFIED RATING FACTORS

works. As noted managers from three state organizations with existing EIM sites worked as voting members on the task force that developed the Circular Letter (Director of the Division of Commercial Recording, Assistant Director from the Division of Pensions, and high-ranking executive staff member from the Division of Taxation). These individuals continue to provide input on procurement and training initiatives.

Other key stakeholders include technical personnel who operate EIM systems and personnel who work in related subdisciplines—e.g., office automation, microfilm, records management, etc.

**FIND AN EIM CHAMPION**

An organization must have a “champion” or initiator to structure EIM-related issues, to set agendas for action, and to see projects through to completion. In New Jersey, in the policy/procedures areas, the Division of

Archives and Records Management (NJDARM) served as the initiator of the Circular Letter. NJDARM wrote the initial reports, did basic research, drafted proposals, and printed the final product. Representatives from the New Jersey Offices of Telecommunications and Information Systems (OTIS) and Management and Budget (OMB) were equally productive during the development of the Circular Letter, both as advocates within the Department of Treasury and as liaisons with different state organizations.

**JUSTIFY (SELL) THE IDEA OF ORGANIZATION-WIDE EFFORTS**

As the initiator of the policy/procedures effort, NJDARM took pains to establish a justification for its actions. That is, it set out to establish the organization-wide significance of EIM and the benefits that could be derived from developing EIM policies and

procedures.

To accomplish this, prior to instituting the formal task force effort on the Circular Letter, NJDARM conducted a statewide survey on EIM. The survey indicated a growing interest in the technology and a concomitant need for education and guidance in EIM systems selection/use. It also revealed that State agencies intended to invest millions of dollars in EIM technology within a short time frame. Thus, NJDARM used the survey results to highlight the significance of EIM to top management and to validate the need for policy and procedures.

In other efforts, such as the training programs discussed previously, NJDARM makes a strong effort to communicate the benefits of attending the training sessions, *prior to* conducting them. That is, NJDARM conducts preliminary meetings with key managers to introduce them to the content of the training programs and to explain the technical, operational and economic merits to be gained from sending their staff members to a session. NJDARM *does not* force the issue by mandating training. Thus far, the results of this approach have been positive.

**BE FLEXIBLE**

In implementing and using the various support mechanisms discussed previously, we have found that each situation demands some degree of flexibility. For example, organizations may wish to staff, execute and document feasibility studies and conceptual designs independently, using their own formats. Others may desire more close relationships with and direct support from staff agencies. In the same connection, organizations may wish to tailor training efforts, procurement formats and records maintenance/disposition practices to meet specific needs.

To the extent possible, we have found it best to accommodate the individual practices and desires of organizations seeking to institute EIM systems, even when applying policies/procedures and procurement formats. In basic terms, as long as an organization’s approach does not impede the effective and efficient application of EIM, there is no need to demand rigid compliance with the “letter of the law.”



**OBSERVE, LISTEN AND LEARN**

EIM is an evolving technology. Thus, support mechanisms must be designed to evolve along with the technology. The only way to successfully fight against obsolescence is actively to scan the EIM environment to keep current on technical developments and innovations, standards activity, and useful EIM applications. Information on recent developments should be incorporated into EIM policies/procedures, training sessions, procurement practices, records management programs, etc.

Equally important, central staff agencies must actively seek feedback from organizational members who use EIM support mechanisms and be willing to make periodic adjustments based on this feedback.

**ADOPT A TEAM APPROACH**

When structuring EIM support frameworks and mechanisms, remember that the successful application of the technology requires expertise from multiple disciplines, and that professionals with the needed expertise are likely to be found in several different agencies.

In this context, jurisdictional ("turf") battles are extremely detrimental. Cooperation, networking and team-building are essential to the effective development of EIM support frameworks and mechanisms.

**CONCLUSION**

New Jersey's efforts to support the on-going use of EIM as an information management tool have been productive. We have developed EIM policies and procedures, produced supportive training sessions, established approaches to systems procurement and initiated work on related records maintenance and disposition guidelines. While much work remains to be done, particularly on legislation (for the statutory recognition of electronic media), EIM operational control guidelines, and system design methodologies, we believe that we have created the bases for on-going success. We would hope that in some small way, our experiences are instructive for those in both the public



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Prior to joining NJDCR, Mr. Fruscione worked for nine years as an analyst and manager for the New Jersey Division of Archives and Records Management. While working for NJDARM, he pursued a wide range of information management endeavors, including basic records management, data processing/office automation and advanced electronic image processing systems design. He also coordinated policy/procedural initiatives addressing all aspects of public sector records management in New Jersey.

and private sectors who also seek to institute similar frameworks for their EIM initiatives.

**REFERENCES**

The published EIM support products mentioned in this presentation are listed below. The New Jersey Division of Archives and Records Management (NJDARM), 2300 Stuyvesant Avenue, Trenton, New Jersey 08625, maintains and distributes the products.

*Circular Letter ST-89-01*, Trenton: New Jersey Department of State, NJDARM, 1989.

*New Jersey Records Preservation and Control Training Program, Basic Records Management Workbook*, Trenton: New Jersey Department of State, NJDARM, 1990.

*New Jersey Records Preservation and Control Training Program, Decision-Makers' Workbook (Feasibility Study Training)*, Trenton: New Jersey Department of State, NJDARM, 1990.

A useful guide for those interested in general electronic records management, including elec-

tronic records retention and disposition scheduling is *Managing Electronic Records*, Washington, D.C.: National Archives and Records Administration, Office of Records Management, 1990. Another work pertaining specifically to the use of optical disk based systems in the public sector is *Technical Report For Information and Image Management, The Use of Optical Disks for Public Records* (TR25-1990), Silver Spring, Maryland: Association For Information and Image Management (AIIM), 1990. AIIM has also published *Electronic Imaging RFP Guidelines* (AIIM TR27-1991), a guideline for writing EIM (optical disk) system requests for proposals (RFP's). A brief overview of electronic records management policy issues can be found in Yvonne Kidd's article, "Electronic Records Management Policy in the 1990's," *Inform*, January, 1991, pp. 10-11.

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