NARA Enters New "ERA" of Electronic Records Management

National Archives' initiatives focus on preserving and providing access to electronic records

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For many years the primary focus of the National Archives was preserving pieces of parchment and paper that had been created during more than two centuries of America's government. In that environment, the National Archives and Records Administration (NARA) could be content to watch change from the outside, analyze it over time, and respond to it after analysis proved the right course of action.

Today, the majority of government records are electronic, and the challenges of preserving and accessing these records do not allow NARA to easily see the paths to take to meet these challenges. Over the past 10 years, NARA has recognized that to fulfill its mission in an e-government world, it must take a lead in accepting, understanding, and working to preserve and provide access to electronic records.

NARA does this to avoid nightmare scenarios such as retirees having trouble getting Social Security and other benefits because it is hard to retrieve their work records, which are in thousands of different electronic formats; veterans unable to receive proper medical treatment because their health and personnel files were "lost in the computers"; the records of scores of federal agencies – including those of the White House – sitting unprocessed in software that grows more obsolete by the hour; and having difficulty accessing sensitive national security documents – classified battle plans, weapon designs, and intelligence data – because they are in outdated formats that future computers will not be able to read.

NARA's mission is to ensure continuing access to the essential documentation of the rights of American citizens and the actions of their government. It also promotes democracy, civic education, and historical understanding of the national experience. To fulfill this role as the recordkeeper of the federal government and educator of the nation's history, NARA must be imaginative, enterprising, and self-aware. These are lofty aspirations for a federal agency but qualities worth working to attain. Some ways in which NARA is pursuing these attributes are the development and deployment of the Electronic Records Archives (ERA), involvement in funding the "Persistent Archive Testbed" and the International Research on Permanent Authentic Records in Electronic Systems (InterPARES) projects that further our knowledge of electronic records, and reengineering and transforming the way records are managed.

The Electronic Records Archives

The role of the ERA is simple and clear. It will accept and preserve the electronic records of government and ensure that they are available far into the future – to anyone, anywhere, anytime. Not only will ERA reach across time, but it will also reach across technology, converting information created today by literally thousands of software applications into computer language that can be read years, decades, even centuries from now.

America's national security – today and well into the future – depends on the ability of federal agencies, state and local governments, and allies overseas to share information critical to the safety of their governments, their infrastructures, their social and economic fabric, and, of course, their citizens. Much of the information being used today to secure America's borders and protect its citizens will be needed long after the computers and software that created them are obsolete. Even now, today's technology cannot read yesterday's data. The five-inch floppy diskettes that were in use a decade ago will not fit into today's disk drives, nor do most computers have software that could read them.

The day-to-day operations of what NARA now refers to as its e-Government depend on reliable management

of the rapidly increasing amount of electronic records that are created every hour of every day in the U.S. federal agencies, the Congress, the courts, and the executive office of the U.S. president.

To ensure that the ERA system will be able to transfer, preserve, and provide access to electronic records, ERA research activities are operating in four broad solution areas.

1. **Archives and Records Management:** end-to-end lifecycle management of electronic records including accessioning, preserving, storing, and accessing/sharing

2. **Requirements Analysis:** evaluating and understanding system architectures to determine what is needed by identifying logical components and system entities that will satisfy requirements

3. **Computer Science and Operational Concepts:** evaluating technical challenges, lessons learned, and alternate solutions for electronic records management systems operations, process, and workflows

4. **Operational Prototypes:** activities that test and validate possible solutions through prototypes or that study operational interactions between humans and machines

In the coming months, after awarding the final contract for further development of this pivotal project, NARA will move from research activities to putting in place a fully operating system to properly ingest these records into NARA's holdings.

State and local governments, as well as private-sector consumers, will benefit from both the research and development of ERA through either direct or adapted use of ERA-developed components to meet their specific needs. Additionally, ERA will foster competition across industry to drive costs down for providing solutions to this world-wide need.

Just two examples of research currently underway to increase the depth of

knowledge pertaining to electronic records issues have been funded by grants from the National Historical Publications and Records Commission (NHPRC). The first, called "Persistent Archive Testbed," is a collaboration between the San Diego Supercomputer Center and several archival institutions across the United States. Its objective is to test the ability to access the "archival grid" so researchers might eventually electronically search archival materials from distinct collections stored and

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located in multiple locations as if they were one collection.

The other is the InterPARES project. InterPARES – involving a research team of archivists, computer scientists, legal scholars, scientists, and engineers from 20 countries – focuses on the full lifecycle of records and addresses requirements for reliability, accuracy, and authenticity of electronic records, and it explores the newest forms of electronically generated records.

These projects complement ERA research activities by focusing on continued accessibility and preservation of authentic electronic records and determining archival requirements to be able to select and appraise permanent records that have high potential for long-term preservation.

Reengineering Records Management

To address the challenges of electronic records and e-government, NARA has

initiated a series of projects with the goal of not merely adapting current practices to new technology, but rather using the opportunities presented by those technologies to change how records management works.

Working through the federal CIO Council, NARA is supporting the creation of a Records Management (RM) Profile in the Federal Enterprise Architecture (FEA). The RM Profile will provide agency decision-makers with a framework for seamlessly incorporating statutory records management requirements and sound records management principles into agency work processes, enterprise architectures, and information systems. The RM Profile provides the opportunity and the tools to assist the inclusion of records management at the front end of agency information technology planning.

To complement this approach, NARA also has sponsored the development of requirements for Records Management Service Components (RMSC). These components are pieces of software that provide services that support the creation, management, transfer, and destruction of electronic records within a computing environment. When developed and implemented, an RMSC would allow the management of records to begin much earlier in the business or mission process. Current solutions, such as records management applications currently on the market, are usually implemented at the end of the business or mission process. Records management services would be available to users within the agency's enterprise architecture from their point of creation or receipt and possibly within their native applications, extending records management across any point in the business process and ensuring appropriate recordkeeping from both similar and dissimilar business processes that result in electronic record creation.

Just as technology has changed the way federal agencies work, NARA is identifying ways to improve its own processes across the records lifecycle. Using ERA, NARA will be able to col-

laborate more closely with agencies and the public to create and review proposed records schedules. NARA will also change the way its schedules are written – using a structured disposition "grammar" that will allow ERA to help NARA and federal records managers identify when to transfer, destroy, or accession scheduled records.

NARA will build the necessary foundation for effective long-term preservation of electronic records early in the lifecycle through the "templates" to define the essential characteristics of the records and through the creation of preservation and service plans. These templates will help NARA and the agencies define what must be preserved, and the preservation and service plans will define how it will be preserved and what level of service NARA wants to be able to provide for it. This kind of involvement early in the records lifecycle will be critical to NARA's ability to effectively manage the ever-increasing volume of electronic records created by the federal government.

Incorporating ISO 15489

NARA has worked closely with ARMA for more than 10 years to represent the United States on ISO TC 46/SC 11, the committee responsible for developing the international records management standard, ISO 15489. It was natural, then, for NARA to state in its Strategic Directions for Federal Records Management document issued July 31, 2003:

Our approach to records management will be based on the ISO Records Management Standard 15489. We will focus on the importance of trustworthy records, and we will stress the concepts of authenticity, reliability, integrity, and usability found in the ISO Standard. We will stress that records management processes occur throughout the records life cycle, rather than in a fixed, sequential manner. In developing regulations, policies, and guidance, NARA will stress the importance of agencies documenting their busi-

ness processes, assessing the value of their information assets, and using risk assessment to determine appropriate records management approaches.

NARA has implemented this goal through a variety of activities in the past two years.

ISO 15489, particularly in Part 2, Guidelines, emphasizes the importance of records management policies and support for records management from senior management of an organization.

> NARA is also integrating ISO 15489 into revision of its records management regulations, which should be available for public review this fall.

NARA has promoted the benefits of an effectively managed records program to support an agency's mission and business needs through numerous high-visibility interactions with agency officials and through its Records Administration Conference (RACO) programs held in Washington, D.C., and the western part of the country. The RACO programs in 2004 and 2005 featured speakers who demonstrated the importance of records management for meeting their business needs and mitigating risks in their programs.

NARA's redesigned records management training program highlights the importance of managing agency records as information assets and incorporates the principles of asset and risk manage-

ment. It also reinforces that in records management "one size does not fit all" – that the rigor of the management controls will vary, depending on the importance of the information assets and the risks confronting the agency program and its records. The program, which rolled out in October 2004, consists of courses in six "Areas of Knowledge" that are relevant to anyone responsible for managing federal records. The training is offered at NARA regional facilities, the National Archives at College Park, and other locations across the country, and it is open to all federal employees, federal contractors, and employees of state and local governments and international organizations.

Later this year, NARA will begin providing special targeted training for federal information technology staff, program managers, and legal counsel. These half-day sessions will stress the importance of authenticity, reliability, integrity, and usability of records for carrying on agency business and the roles and responsibilities of the specific audiences. NARA will also complete development of a web-based basic records management course for all federal employees and contractors that highlights ensuring the trustworthiness of records through proper records management. NARA is also integrating ISO 15489 into the revision of its records management regulations, which should be available for public review this fall.

Looking Toward the Future

NARA is committed to keeping America's documentary heritage secure, trustworthy, and usable, regardless of its format. The work it is doing now on ERA and other electronic records initiatives will ensure that America's digital legacy is not lost and that future generations will have access to the digital records of today. ∎

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