Overview and Update of NARA's Electronic Records Archive (ERA) Program.

Informal Remarks Presented to the Government Information Preservation Working Group

14 October 2004

Electronic Records Archives

Background: NARA's Interests as the Nation's Record Keeper

Federal government electronic records comprise digital objects some of which ascend to a level of significance sufficient as to warrant non-discretionary perpetual preservation and support for access by the federal government

Federal government electronic records possess attributes, characteristics and are associated with enabling high assurance processes sufficient to document

- the rights of American citizens
- the actions of the federal government
- our national experience

The Electronic Records Challenge

Scope – The Entire Federal Government

Variety – Different Records Types

Complexity – Variable Data Structures and Organizations

Volume – Enormous Amounts of Records

Obsolescence – Constantly Changing Technology

Presidential Records

Under the Presidential Records Act, [44 U.S.C. 2203(f)(1)]

when a President leaves office, the Archivist of the United States assumes responsibility "for the custody, control, and preservation of, and access to, the Presidential records of that President."

through 12 nationally distributed Presidential Libraries & Presidential Materials Facilities

Presidential Libraries

George Bush Library - College Station, Texas

Jimmy Carter Library - Atlanta, Georgia

Dwight D. Eisenhower Library - Abilene, Kansas

Gerald R. Ford Library & Museum - Ann Arbor & Grand Rapids, Michigan

Herbert Hoover Library - West Branch, Iowa

Lyndon B. Johnson Library - Austin, Texas

John F. Kennedy Library - Boston, Massachusetts

Ronald Reagan Library - Simi Valley, California

Franklin D. Roosevelt Library - Hyde Park, New York

Harry S. Truman Library - Independence, Missouri

Clinton Presidential Materials Project - Little Rock, Arkansas

Nixon Presidential Materials Staff - College Park, Maryland

Congressional Records

While the records of Congress remain the legal property of the House and Senate, they are preserved and made available by NARA's Center for Legislative Archives

Federal Records

Under 44 U.S.C. 2107

the Archivist of the United States, has authorities and responsibilities for records that are, in the language of the law , "determined by the Archivist of the United States “to have sufficient historical or other value to warrant their continued preservation by the United States Government."

through NARA’s 34 nationally distributed facilities

Electronic Records Archives

Judicial Records (electronic case files)

Records of District Courts of the United States

Records of the U.S. Courts of Appeals

through NARA's 34 nationally distributed facilities

NARA's Nationally Distributed Facilities

Regional Archives & Records Centers

Anchorage, Alaska	Lee's Summit, Missouri
Atlanta, Georgia	New York, New York
Chicago, Illinois	Philadelphia, Pennsylvania
Dayton, Ohio	Pittsfield, Massachusetts
Denver, Colorado	Saint Louis, Missouri
Fort Worth, Texas	San Bruno, California
Kansas City, Missouri	Seattle, Washington
Laguna Nigel, California	Waltham, Massachusetts

NARA's Nationally Distributed Affiliated Archives

The Library of Congress Prints & Photographs Division

The U.S. Government Printing Office

The U.S. Military Academy Archives

The William W. Jeffries Memorial Archives, U.S. Naval Academy

The Yellowstone National Park Archives

The HABS/HAER Division, National Park Service

The New Mexico State Records Center & Archives

The Oklahoma Historical Society

The Pennsylvania State Archives, Bureau of Archives & History

Electronic Records Archives

National Archives' Institutional Electronic Records Expertise

The Electronic & Special Media Records Services Division in the Office of Records Services, Washington, D.C.

- 30+ years of experience
- simple Files (i.e. structured files, tables, etc.)
- currently expanding preservation methods and storage capabilities
- technology assisted processing

The Electronic Records Challenge: A Tsunami

(of ~ 3%-5%)

Clinton Administration

– 40+ million email messages (received Jan 01)

Department of Defense

– electronic official military personnel files

– service histories & EHRs (54+ million files/year)

Census Bureau

– 2000 U.S. Census (600 million + files - one subset)

Congressional Records

- September 11 Commission

State Department

– 25+ million electronic diplomatic messages (first accretion)

The Archivist's Directive:

ERA is NARA's Strategic Response

The Electronic Records Archives (ERA) is a comprehensive, systematic, and dynamic means of preserving and providing continuing access to authentic electronic records over time.

The goal of ERA is to enable NARA to preserve and provide access to **any type of electronic record** created anywhere in the Federal Government.

ERA's Vision Statement

"ERA will ***authentically preserve and provide access to any kind of electronic record***, free from dependency on any specific hardware or software, enabling NARA to carry out its mission into the future."

John W. Carlin, Archivist of the United States

ERA Goals

- Overcome technological obsolescence in a manner that preserves demonstrably authentic records
- Build a dynamic solution that incorporates the expectation of continuing change in information technology and in the records its produces.
- Find ways to take advantage of continuing progress in information technology so as to maintain and improve both performance and customer service

ERA Strategy

- Attack the critical preservation problem
- Define the ERA requirements in terms of the lifecycle management of records
- Find ERA solutions in commercially viable, mainstream technologies being developed to support e-commerce, e-government and the next generation national information infrastructure
- Align ERA with overall direction of IT in the U.S. Government
- Establish strategic partnerships to catalyze innovation
- Eliminate dependence on presumed clairvoyance

NARA

...ready access to essential evidence...

Our Partners

Electronic Records Archives

Global Grid Forum

NASA

SDSC San Diego Supercomputer Center

University of Maryland 1856

National Science Foundation

NCSA National Computational Science Alliance

IEEE

PDES, Inc.®

InterPARES Project
International Research on Permanent Authentic Records in Electronic Systems

Internet 2

Georgia Tech Research Institute

ARL Army Research Laboratory

NNSA National Nuclear Security Administration

NIST

The Library of Congress

DIGITAL LIBRARY FEDERATION

NPACI National Partnership for Advanced Computational Infrastructure

Three Pronged Approach

#1 ERA System Acquisition

- The ERA system will support NARA enterprise end-to-end lifecycle management of all records
- Preserve and provide access to electronic records

#2 Significant Investment in Organizational Change Management

- Ensure NARA can successfully implement the system

#3 Continued Research and Exploratory Development

- Address new challenges posed by continuing change in IT and its use in government
- Capitalize on opportunities offered by technological progress

ERA support for NARA Enterprise

- Support collection, integration, and sharing of information about records.
- Support the appropriately scalable workflow associated with business processes and records accretion rates.
- Interface with other agency systems.
- Maintain complete audit trails.
- Accommodate substantial growth in volume & variety.
- Protect the system and the records with state-of-the-art security.

ERA support for NARA Enterprise

- In the Federal context ERA is identified as "Major System Acquisition"
- NARA's first agency "Major System Acquisition"
- NARA's first agency "Program Office"
- Supported with specific line item in President's Budget
- Pursued through "challenge to industry" acquisition model
- Authorities target acquisition not current operations

ERA fully in context with e-Government and NARA's Strategic Initiatives

Electronic Records Management (ERM)

Addresses the expansion of the number of formats NARA accepts and increases the variety of media and techniques Federal agencies use when transferring permanently valuable electronic records to the national archives.

Records Management Initiative (RMI)

Will dramatically redesign records management for the entire Federal Government. It is exploring strategies to make records management less burdensome and more effective for NARA and other Federal agencies.

Records Lifecycle Business Process Reengineering (BPR)

Will incorporate and coordinate process improvement with NARA's ERM, RMI, and **ERA** programs; promote compliance with Government Paperwork Elimination Act (GPEA) requirements; and increase efficiency and effectiveness of all records lifecycle processes. The BPR addresses permanent and temporary records and records created and transferred in all media. The BPR will also help identify and validate requirements for the **ERA** program.

ERA Program Overview Milestones

1998-2000 ***Research***

The Archivist established the ERA Program
Research partnerships formed to find solutions to electronic archiving challenge

- 1998 $300K NARA research collaboration with DARPA ITO (60% of then available electronic records program funds)
- Continued development of research partnerships
- 2000 NARA's ERA Program formally chartered

2001-2003 ***Program Development***

Contractor Team brought in to assist with program management
Key Integrated Product Teams (IPTs) Chartered
Key Program documents completed
Staffing of the Project Management Office (PMO)

- 2002 $22.3M appropriation (P.L. 107-67) for NARA ERA Program
- 2003 $11.8M appropriation (P.L. 108-7) for NARA ERA Program

Program Overview Milestones

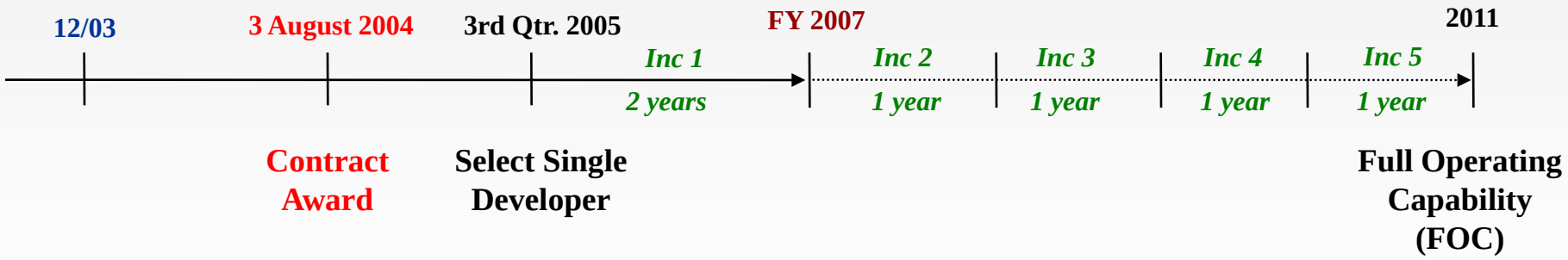
2004-2007 **Design and Build ERA**

- 2004 $36M “Line Item” appropriation (P.L. 108-199) for NARA ERA Program

Electronic Records Archives

ERA Update

- Release of RFP – 12/03
- Award Two Design Contracts – 8/04
- Select a Single Developer – 3rd Qtr. FY05
- Five Increments (Inc) w/ Multiple Releases
- Initial Operating Capability – FY 2007
- Full Operating Capability – 2011



Electronic Records Archives

Lockheed Martin and Harris Corporations are competing to design the ERA to capture electronic records and information, preserve it forever and make it accessible to anyone, from any place, at anytime.

Electronic Records Archives

Lockheed Martin, Transportation and Security Solutions Division.

Lockheed Martin is a leader in Defense and Government Markets. Headquartered in Bethesda, Maryland, the corporation employs about 130,000 people worldwide and is principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services.

Firm-fixed price design contract value: $9.5 million

Harris Corporation, Government Communications Systems Division.

Harris Corporation is an international communications equipment company focused on providing product, system, and service solutions for commercial and government customers. The company serves markets for microwave, broadcast, secure tactical radio, and government communications systems. Harris has more than 10,000 employees, including 5,000 engineers and scientists, and is headquartered in Melbourne, Florida.

Firm-fixed price design contract value: $10.6 million

Current Research Activities:

Data Grid Enabled "Transcontinental" Persistent Archive Prototype

- ~3 M files distributed across NARA, the San Diego Supercomputer Center, The University of Maryland & other sites
- Zone federation via srb (v3.1); I2 based; Globus GSI; heterogeneous commodity disk arrays & Linux file systems
- Certificate-based authentication enabled Ingestion network
- New partnership with MIT "DSpace"

Investigations of scalable scientific data management and I/O techniques for application to electronic records

Knowledge-based technologies enabling preservation of electronic records collections

Other NARA Research Collaborations:

Army Research Laboratory & Georgia Tech Research Institute - Decision Support Pilot System for Presidential Electronic Records/Information Assurance

NIST/ITL - Investigation of Cryptographically Strong Techniques to Support Authenticity Requirements for Presidential Electronic Records

NNSA - Preservation of complex CAD/CAE digital objects

NASA - Open Archives Information System Reference Model (ISO 14721:2003)

DOD - Information Assurance

Department of State – Knowledge Based Technologies for Diplomatic Records

Contact Information

Electronic Records Archives
Program Management Office

Robert Chadduck
Director of Research

ERA Website:

http://www.archives.gov/electronic_records_archives/index.html

http://www.archives.gov/electronic_records_archives/research/research.html