

# Electronic Records Archives

## ***NARA's Electronic Records Archive (ERA)***

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### **The Electronic Records Challenge**



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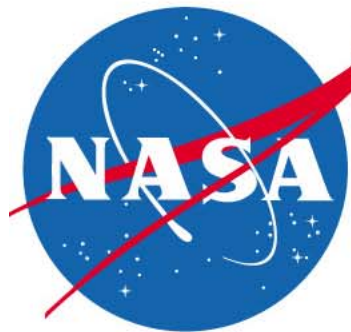
**NASA/IEEE MSST 2004**

12th NASA Goddard/21st IEEE Conference on  
Mass Storage Systems & Technologies

The Inn and Conference Center  
University of Maryland University College

Adelphi MD USA

April 13-16, 2004





- **Introduce the ERA Program**
- **Provide background on ERA**
- **Describe the challenges ERA represents**
- **Look forward**

- **“The National Archives and Records Administration (NARA).... is a public trust on which our democracy depends.**
  - **It enables people to inspect for themselves the record of what government has done.**
  - **It enables officials and agencies to review their actions and helps citizens hold them accountable.**
  - **It ensures continuing access to essential evidence that documents:**
    - **the rights of American citizens**
    - **the actions of Federal officials**
    - **the national experience”**

## A Record - Documentary material of any form

- **Made or received in the course of business or under law**
- **Kept because it**
  - Provides evidence of organization, functions, policies, decisions, procedures, operations, or other activities of their creators, or
  - Contains valuable information
- **NARA holds many records and record types**
  - Reels of motion pictures
  - Maps, charts, and architectural drawings
  - Sound and video recordings
  - Aerial photographs
  - Still pictures and posters
  - Computer data sets



## The Challenges ERA Faces with Electronic Records

- **Scope – The Entire Federal Government**
- **Variety – Different Types of Records**
- **Complexity – Records in Different Formats**
- **Obsolescence – Constantly Changing Technology**
- **Authenticity – Assuring the record is what it purports to be**
- **Volume – Enormous Amounts of Records**



# NARA's Current Electronic Records System

- **NARA has 30 years of experience with electronic records**
- **Mostly simple files**
  - **Comma delimited**
  - **ASCII**
  - **Flat Fixed Length**
- **Current systems do not meet the need**
- **A new and comprehensive approach to records storage and preservation is required**



# ERA is NARA's Response to the Electronic Records Challenge

## 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*

- **The nature of electronics records differs from traditional records**
- **Traditional (hard copy) records**
  - **Inscribed on their media**
  - **Preservation is performed on the object**
- **Electronic records**
  - **Represented as binary values that must be translated to a different form in order to communicate the record**
  - **It is the result of this reproduction, not the stored bits, that is the electronic record**
  - **It is this ability to reproduce the record that must be preserved**
  - **The preserved re-creation/translation must be authentic**



- **Authenticity ... the property of a record that it is what it purports to be and has not been corrupted**
- **Traditional Records**
  - **Preserve and maintain the medium (content)**
  - **Document and maintain a chain of custody**
  - **Maintain the context of the record to other records**
- **For complex electronic records (databases, web sites, geographic information systems, virtual reality models), we need to preserve the essential properties of the record**
  - **Content**
  - **Context**
  - **Structure**
  - **Behavior**

- **Electronic records are stored on media, which of course needs to be monitored and maintained, but**
- **Electronic records relying for access on technology that arises and evolves rapidly are subject to obsolescence:**
  - **Computing platforms**
  - **Communication infrastructures interconnecting platforms**
  - **Data recording formats**
  - **Software used to reproduce the records**



## The ERA Program Management Office

- **The Archivist established the ERA PMO in 2001**
  - **The ERA Project was established as an official division of NARA in 2002**
- **Contractor team hired to assist the PMO with Program Management**
- **A strong and active research effort is ongoing with numerous Universities and other government Agencies**
- **The ERA solicitation process has begun with consistent budget support**

- **Solicitation strives to define the electronic records challenge without prescribing implementations or techniques that address the issues**
  - **Very little design specifics within the procurement documents**
  - **OAIS Reference Model and some DoD and NIST standards are included**
- **Goal is to challenge industry to propose innovative solutions to the electronic records challenge**
  - **Preservation**
  - **Authenticity**
  - **Support for variety of Record Types and Data Types**



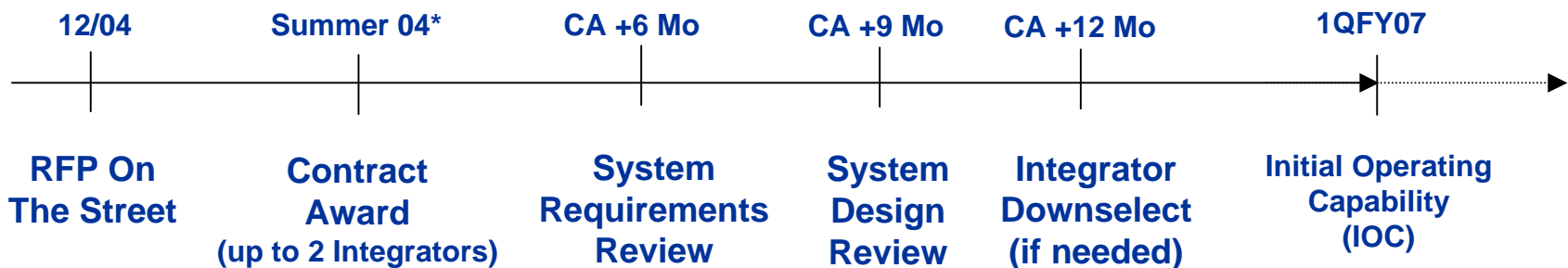
## Design and Deployment Goals

- **NARA must own and control at least one set of all holdings of electronic records entrusted to it**
- **The ERA system is one of NARA's contributions to the Federal Enterprise Architecture (FEA)**
- **NARA must produce a highly reliable system design**
- **NARA must take a long term view for the system's operation and its required scalability, reliability and cost effective operations**
  - **Support outsourcing of potential processing, hosting services, and value added processing**
  - **While ensuring NARA 's stewardship of the records trusted to it.**

- **Insure system integrity**
  - Establish security and accommodation of restoration services to protect records from alteration, loss or lack of access capability over time
- **Manage the evolutionary nature of the ERA system, particularly**
  - Changes to Persistent Preservation approaches
  - Upgrades to the general infrastructure and support technologies used in the system
- **Handle expected ERA Record Holdings**

	2007	08	09	2010	12	14	13	14	18	22
<b>Avg. Yearly Transfer Volume (PB)</b>	3.6	1.9	2.3	2.9	4.8	10.0	6.9	10.0	35	59
<b>Avg. Yearly Distribution Volume (PB)</b>	1.8	2.4	3.0	3.7	5.7	9.7	7.3	9.69	31	79
<b>Accumulated Holdings Volume (PB)</b>	3.6	5.5	7.8	10.6	18.9	35.8	25.8	35.8	131	347

- ERA is currently in the midst of it solicitation phase
  - Program/procurement documents developed over the last 2 years
  - RFP released 12/03, proposals received and currently are in evaluation



\* All dates are tentative



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