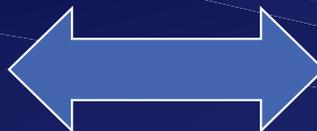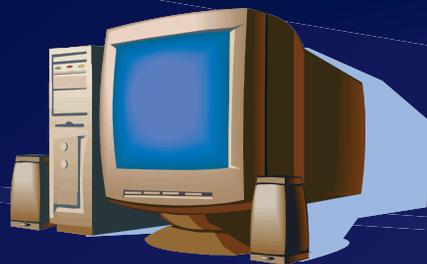# Embedding Electronic Records Management Into the Fabric of Your Agency

L. Reynolds Cahoon

Assistant Archivist

Human Resources and Information Services, CIO

Creating the Balance

Order

Deliver

Bill

Exploring the Relationships

National Archives and Records Administration

Take Aways

- To Make Records Management effective requires simultaneous attention to People, Process and Technology

- Integrate Records Management into Agency Business Processes and IT Applications

- Provide Persistent E-Records Preservation Capability

Current Reality From 30K Ft.

- Investment in Software functionality that creates records is growing
- Email often replaces phone conversations, meetings and formal written communication
- Instant Messaging increasingly replaces email
- Litigation and discovery costs skyrocketing
- Mission critical records not retrievable or useable
- Copies proliferate; data conflicts or is unreliable
- Authenticity is questioned
- Premature destruction
- Decline in number of staff specializing in filing
- Tools to manage electronic records lag far behind

The Challenge of Electronic Records

- **Authenticity – Over Time**

- **Variety – 4,800+ Different Types of E-Record Formats**

- **Complexity – Increasingly Sophisticated Formats**

- **Volume – Vast Quantities of Records**

- **Obsolescence – Constantly Changing Technology**

- **User Expectations – Evolving**

The Big Picture Goals

- Agencies economically and effectively create and manage records necessary to meet business needs,

- Records are kept long enough to protect rights and assure accountability, and

- Records of archival value are preserved and made available for future generations

Creating The Balance

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National Archives and Records Administration

People Dynamics

Program Managers

**General Counsel
Staff**

**Information Technology
Staff**

**Records Management
Staff**

The People Dimension
Records Managers

- **Structure**
  - Authority
  - Position Levels
  - Reporting Relationships
  - Development Team Composition
- **Competencies**
  - Electronic Records Management
  - Language
  - Risk Assessment & Management
  - Business Process Design
  - Systems Analysis
  - Requirements Development
  - Project Management

National Archives and Records Administration

The People Dimension

■ **Performance Management**
- Expectations Management
- Incentives/Rewards
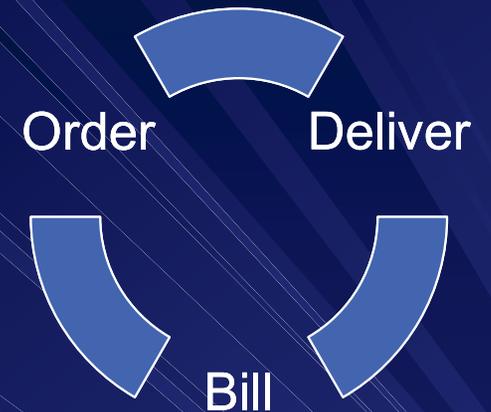- Performance Plans

■ **Continuous Training**
- Evolving Development Plans
- Evolving Curriculum

■ **Change Management**

Process

- Capital Planning and Control

- Enterprise Architecture

- Business Process Design

- Solution Development Lifecycle

Order   Deliver

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Records Management In Capital Planning

- Will proposed system create records?

- Will proposed system be required to support electronic recordkeeping ?

- Who will represent records management on team?

- Will execution of system business processes result in the generation, management/distribution of intellectual capital, other products, or electronic files across the business and/or extended enterprise?

- Are resulting outcomes/products used in making business decisions?

Federal Enterprise Architecture Reference Models

Performance and Business Driven

Performance Reference Model (PRM)
- Inputs, Outputs, and Outcomes
- Uniquely Tailored Performance Indicators

Business Reference Model (BRM)
- Lines of Business
- Agencies, Customers, Partners

Service Component Reference Model (SRM)
- Service Domains, Service Types
- Business & Service Components

Data Reference Model (DRM)
- Business-focused Data Standardization
- Cross-Agency Information Exchanges

Technical Reference Model (TRM)
- Service Component Interfaces, Interoperability
- Technologies, Recommendations

Component-Based Architectures

Records Management in the NARA Target Enterprise Architecture

NARA Enterprise Architecture Framework

Critical Drivers
- NARA Strategic Planning
- NARA Risk Management
- NARA IT Projects & Programs
- Business Requirements
- IT Capital Planning
- Law, Policy, Directives, & Guidance

Enterprise Architecture
- Architecture Overview
- Principles, Constraints, & Assumptions
- Federal Oversight Alignment
- Business Architecture
- Data Architecture
- Application Architecture
- Systems Architecture
- Operations Architecture
- Sequencing Plan
- Technical Reference Model and Standards Profile
- Records Management Services
- Security Architecture

Foundational Elements
- Glossary
- IT Governance, Organizations, & Staffing
- IT Management Processes
- IT Industry Standards & Good Practices
- NARA Enterprise IT Repository

- ▪ **Incorporates records management services, implemented via components, that cut across and support business and technical functions**

- ▪ **Components vary in granularity and are embedded in the business processes and applications within the six EA sub-architectures**

- ▪ **Instances will be placed in the FEA's component repository for reuse in other Federal EAs**

Specify Records During Business Process Design
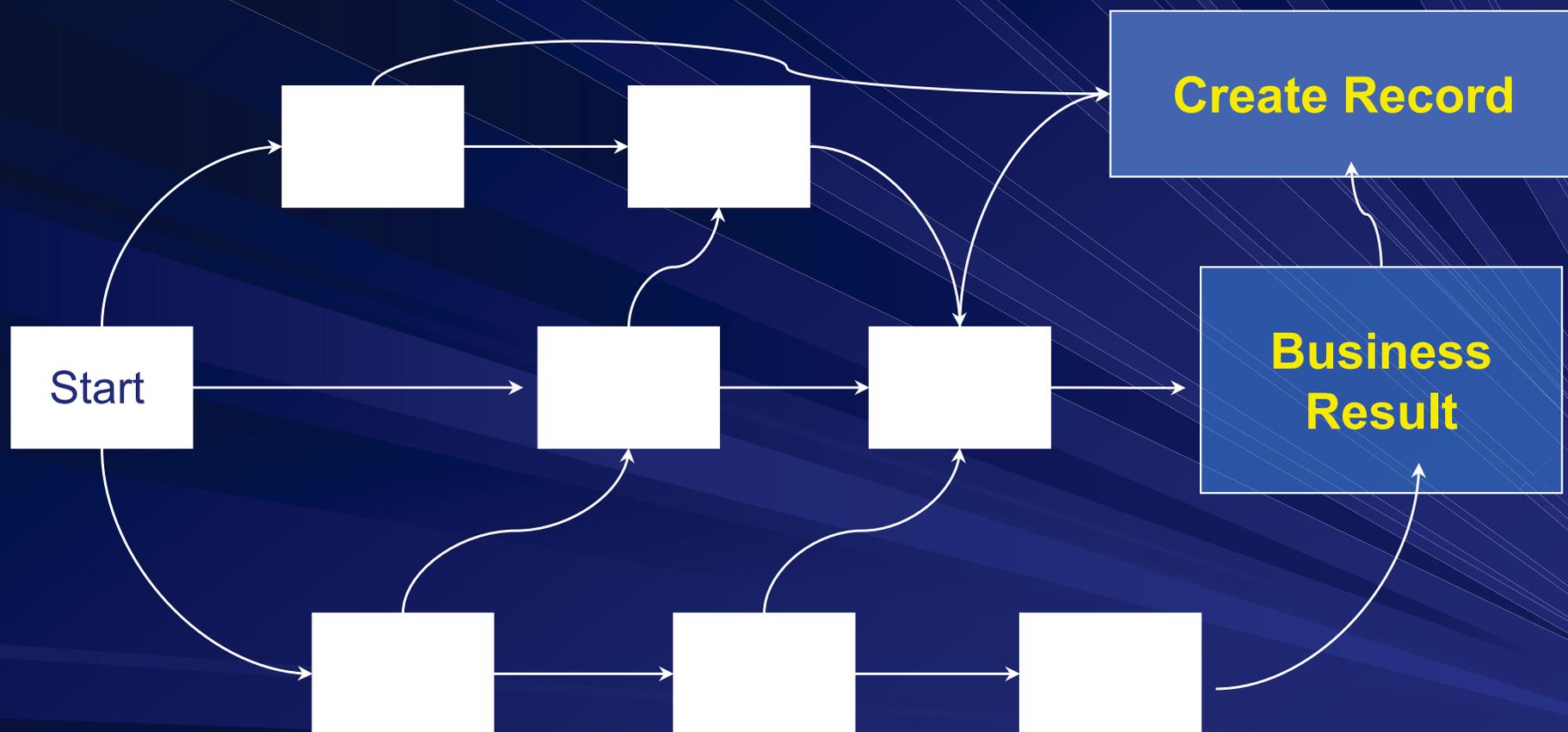
Business Process Design
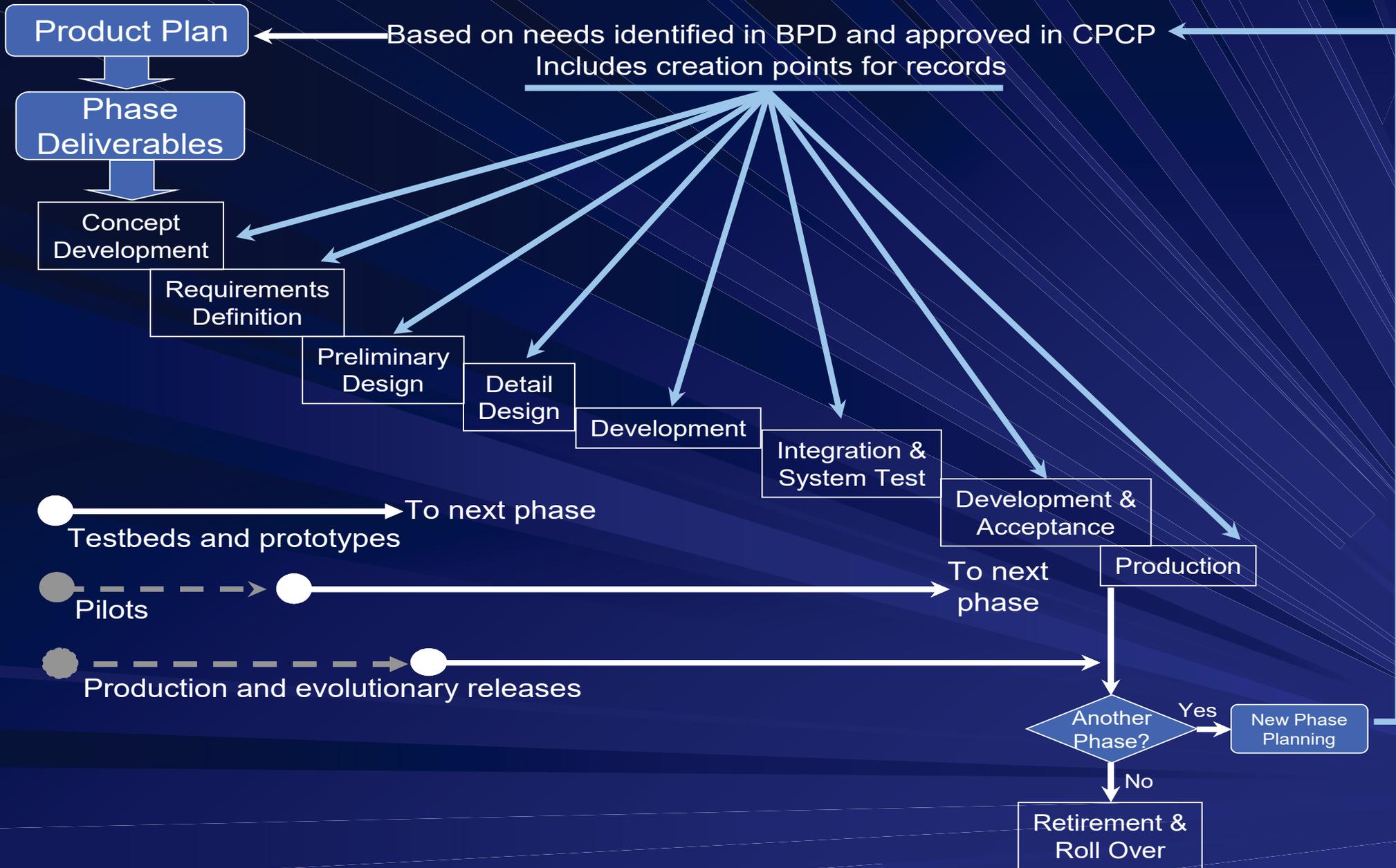
Does this transaction require:

- Evidence of decisions or action?

- Evidence of performance?

- Compliance with applicable statutes, regulations, orders, and other directives that require business unit to create records?

- Documentation to enable business unit to protect its interests?

- Accountability for the use of resources?

Business Process Design (cont.)

Does this transaction require:

- Documentation of decision-making processes consistent with the law?

- Preservation of the agency's corporate memory, and a capability for tracking business transactions over time?

- Creation of records of significant government policies and activities that must be kept for posterity?

- A record of communications within/between agencies, and between the agency and the general public (as applicable)?

Solutions Development Life Cycle Method

Product Plan

Based on needs identified in BPD and approved in CPCP
Includes creation points for records

Phase Deliverables

Concept Development

Requirements Definition

Preliminary Design

Detail Design

Development

Integration & System Test

Development & Acceptance

Production

To next phase

Testbeds and prototypes

Pilots

To next phase

Production and evolutionary releases

Another Phase?

Yes

New Phase Planning

No

Retirement & Roll Over

RM in Solutions Development Life Cycle Methods

- Ensure records creation points in the Business Process Design are in the system design
- Re-evaluate records creation points at each iteration of system development/re-design
- Migrate records at system upgrade
- Manage records, including meta-data definitions & attributes at system retirement and roll over
- Transfer records, including meta-data definitions & attributes as appropriate
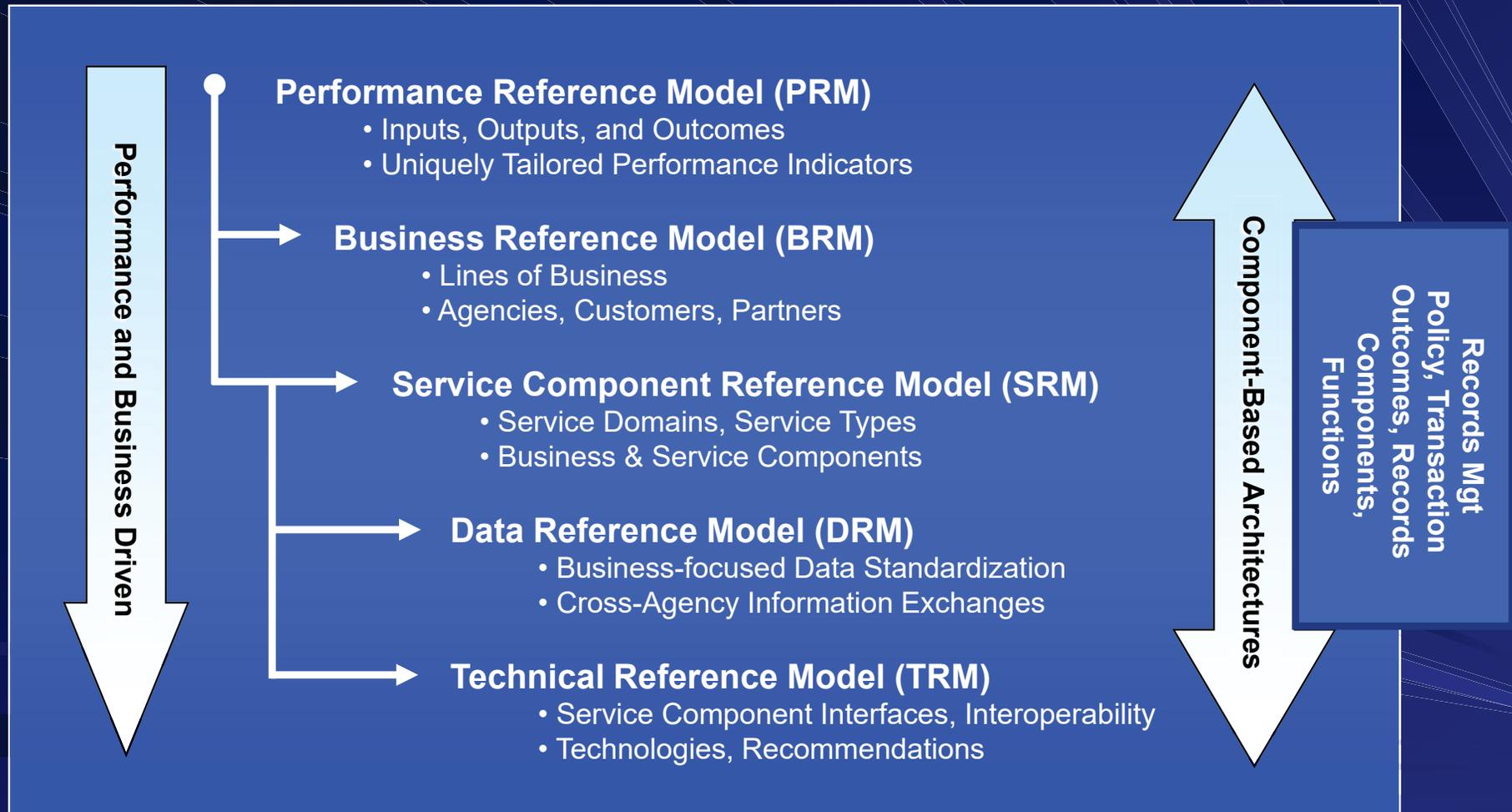
Technology
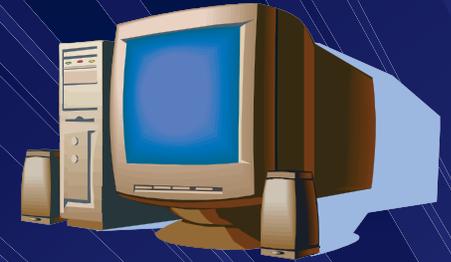
- Enterprise Architecture

- Service Components

- Persistent Object Preservation

Federal Enterprise Architecture Reference Models

Performance and Business Driven ↓

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Technical Reference Model (TRM)
- Service Component Interfaces, Interoperability
- Technologies, Recommendations

Component-Based Architectures ↕

Records Mgt Policy, Transaction Outcomes, Records Components, Functions

Component Definition

A self-contained

business process or service

with

predetermined functionality

that may be exposed through a business or technology interface.

Component Attributes

- A software component should be well documented to promote understanding of its capabilities, and encourage its consumption.

- A component should clearly separate the definition of the services that it provides from its implementation of those services.

- A true component can be independently developed, delivered, and installed without complex interdependencies on other external components.

Core RM Capabilities

- A "core" set of records management capabilities might include:
  - Record Organization/classification scheme and file plan
  - Record capture, declaration, and management
  - Record search, display and presentation
  - Record retention and disposal
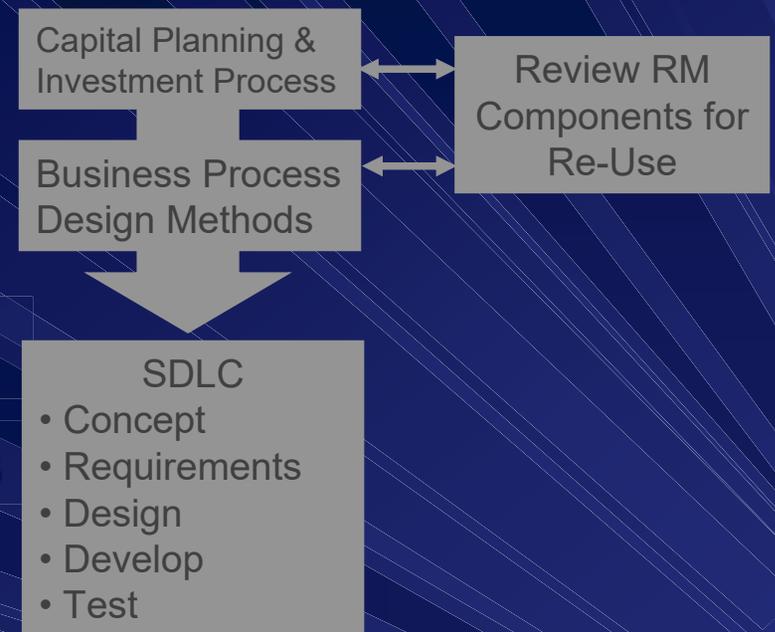 - Access control

Core RM Capabilities Provide

- Audit

- Reporting

- Usability

- Design & Performance

- Compliance with statutes, regulations, and standards

Bringing It All Together
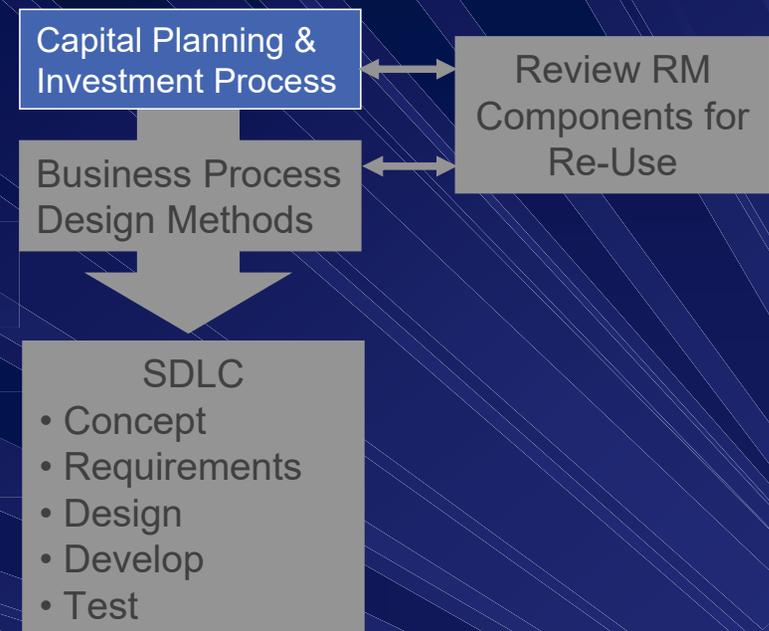
- **Enterprise Architecture**
  - Aligns people, technology, and business goals

  - Establishes the process for
    - documenting lines of business
    - funding review
    - technology implementation

  - Exposes business functions common to all agencies such as Records Management

| Capital Planning & Investment Process | ⟷ | Review RM Components for Re-Use |
| Business Process Design Methods | ⟷ | |

SDLC
- Concept
- Requirements
- Design
- Develop
- Test

Bringing It All Together

- ## Capital Planning & Investment Process

  – Ensure RM requirements are in the budget

  – Fund/approve systems upgrade or initial purchase

  – Include funding of RM components

  – Ensure IT solution satisfies EA requirements

  – Adjust/readjust ROI for re-used components

Capital Planning & Investment Process

Review RM Components for Re-Use

Business Process Design Methods

SDLC
- Concept
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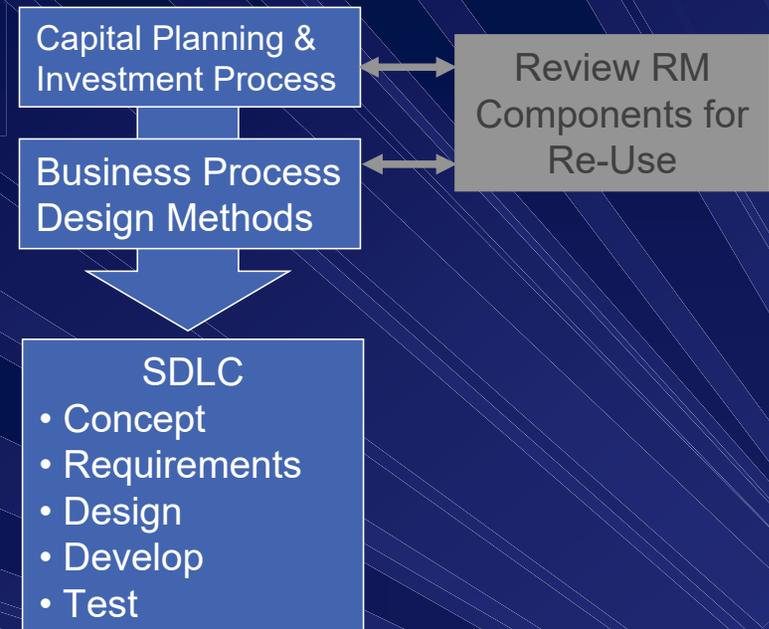# Bringing It All Together

■ **Business Process Design Methods**

– Identify business transactions

– Identify points for record creation

– Identify records management functions to be supported
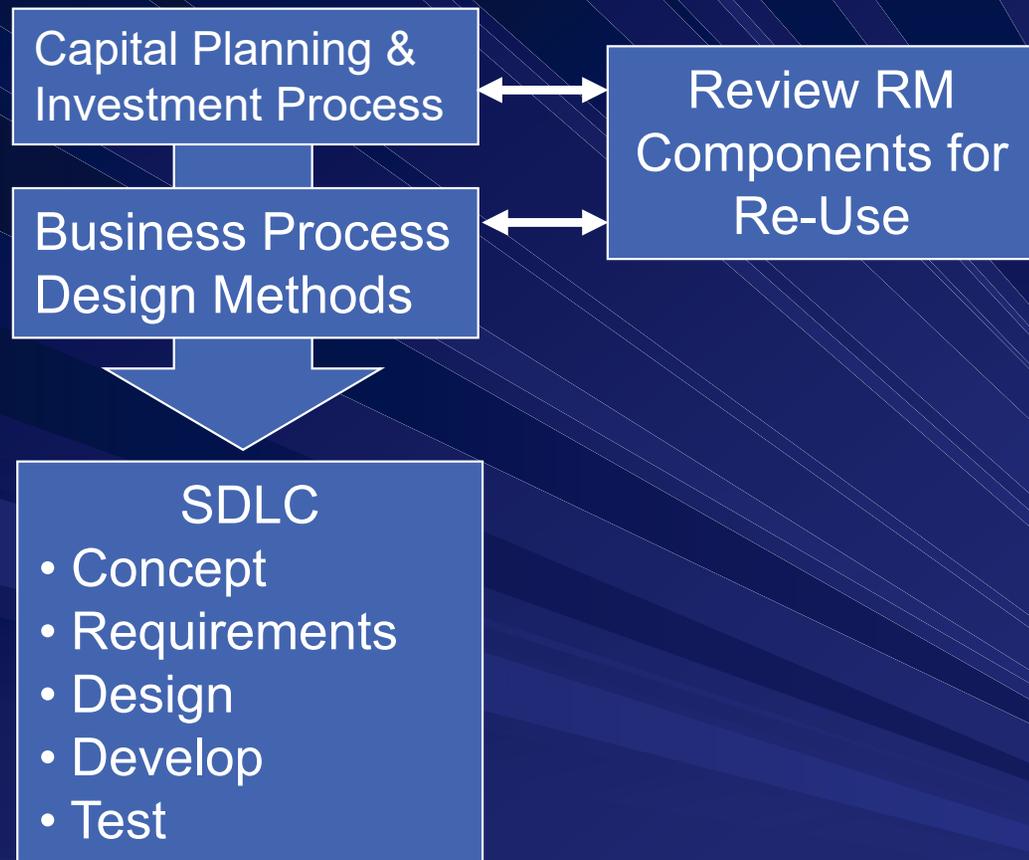
– Identify RM components for re-use

Capital Planning & Investment Process

Review RM Components for Re-Use

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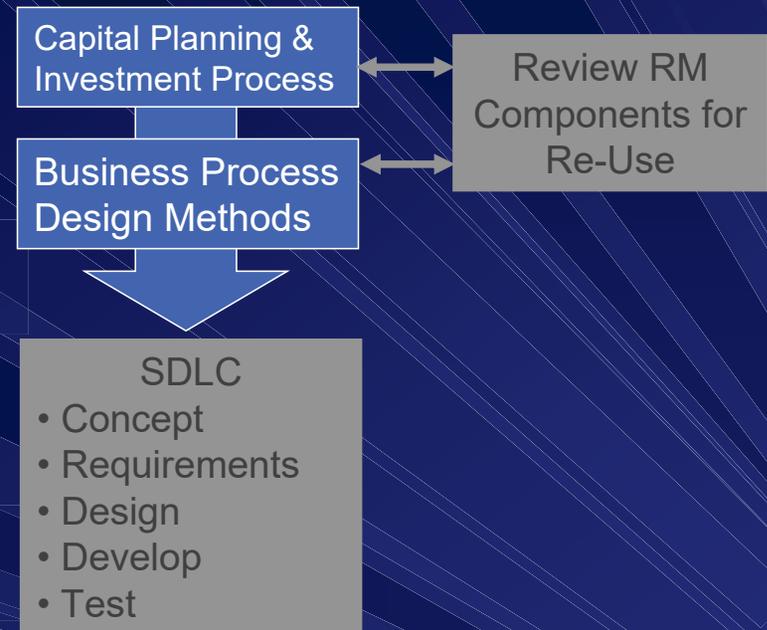
Bringing It All Together

- **Solution Development Life Cycle**
  - Procure/acquire system
  - Ensure BPDM & CP requirements are met
  - Determine system life cycle review
  - Initiate review, upgrade process
  - Identify RM components for re-use

Capital Planning & Investment Process	⟷	Review RM Components for Re-Use

| Business Process Design Methods | ⟷ | |

SDLC
- Concept
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Bringing It All Together

Capital Planning & Investment Process ↔ Review RM Components for Re-Use

Business Process Design Methods ↔

SDLC
- Concept
- Requirements
- Design
- Develop
- Test

National Archives and Records Administration

The Electronic Records Archives

NARA's Current Electronic Records System

- NARA has 30 years of experience with electronic records
- Simple Files
  - Comma delimited
  - ASCII
  - Flat Fixed Length
- Does not meet the need

Create a Capability That Will:

- **Preserve authentically any type of electronic record,**

  – **Created using any type of computer application,**

  – **On any computing platform,**

  – **From any entity in the Federal Government and any donor.**

- **Provide discovery and delivery to anyone with an interest and legal right of access, now and for the life of the republic and beyond**

ERA Requirements

- ## Persistent
  - To <u>manage</u> and <u>access</u> the records over time.
- ## Authentic
  - To ensure that these are the original records
  - Records that are created with attached documentary information
- ## Scalable
  - To grow and adapt to increasing volumes and evolving types of electronic records
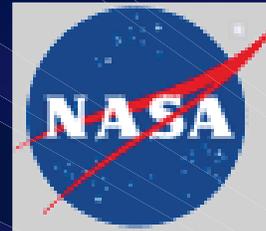 - To serve a variety of user groups

Government and Private Sector Partners

National Science Foundation

Global Grid Forum

NASA

University of Maryland

SDSC

San Diego Super Computer Center

InterPARES Project
International Research on Permanent Authentic Records in Electronic Systems

IEEE

NCSA

National Computational Science Alliance

Georgia Tech Research Institute

Army Research Laboratory

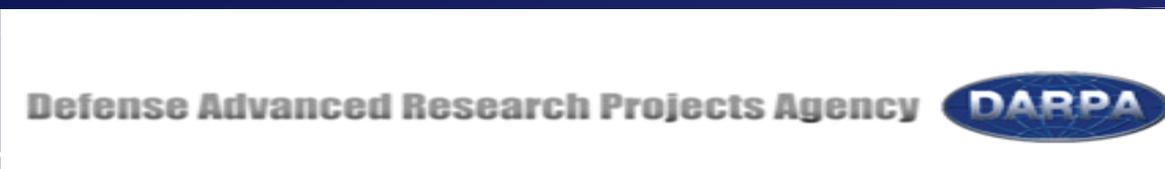NIST — National Institute of Standards & Technology

NPACI

National Partnership for Advanced Computational Infrastructure

The Library of Congress

Defense Advanced Research Projects Agency DARPA

DIGITAL LIBRARY FEDERATION

NARA

...ready access to essential evidence...

We the People

Electronic Records Archives

Accessioning Workbench
- Accession
- Verify
- Transform, Wrap & Containerize
- Describe

Archival Repository
- Collection
- Collection
- Collection
- Metadata

Reference Workbench
- Query
- Rebuild
- Present

Tapes

Disks

Internet

Records Schedules

Archival Research Catalog

Order Fulfillment System
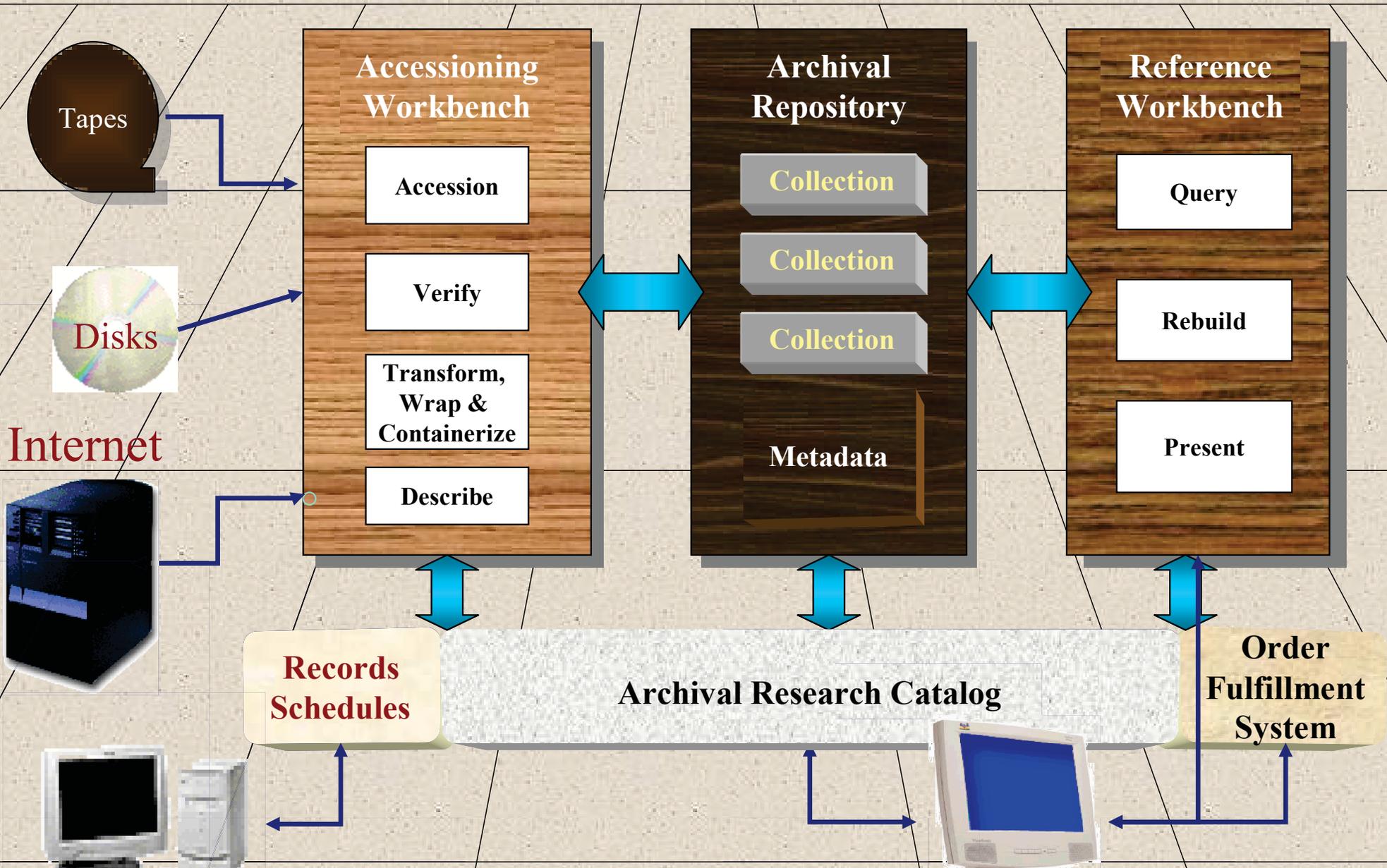
What Will the System Do?

- **Support the collection, integration, and sharing of information about records.**

- **Support the workflow associated with business processes.**

- **Interoperate with other systems.**

- **Maintain a complete audit trail.**

- **Accommodate substantial growth in volume & variety.**

- **Protect the system and the records with state-of-the-art security.**

National Archives and Records Administration