Planning and Developing an Enterprise-wide Content Management System

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Mike Sutton
Scott Stirneman
U.S. Environmental Protection Agency

Presentation for RACO
May 6, 2008
Overview

- Getting Started
- ECMS Strategic Approach
- EPA’s Email Records
- Lessons Learned
- Technical Considerations
- Records Considerations
- Q&A
- For More Information
Getting Started

- **1990s**
  - EPA identifies need for an electronic records and document management system

- **2001**
  - Requirements identified for the Electronic Records and Document Management System (ERDMS) are finalized

- **2003**
  - Documentum chosen as the Agency solution for content management

- **2004**
  - Project renamed Enterprise Content Management System (ECMS) to include documents in addition to records
  - Development of multiple discrete projects is encouraged using the Documentum document capture and workflow capability

- **2005**
  - Hurricanes Rita and Katrina and litigation put attention on need to better manage e-mail records

- **2006**
  - Email records capture selected as first enterprise-wide ECMS solution

- **2007 - 2008**
  - Email records capture implemented
  - Discrete projects using workflow and document capture on-going
ECMS Strategic Approach

- Two concurrent approaches
  - **Enterprise Model (PMO driven)**
    - Capability available Agency-wide to respond to consistent processes, e.g.,
      - Email Records
      - Electronic records capture
      - Basic document management
  - **Partnership Model (Org driven)**
    - Allows EPA partners to leverage license, ECMS architecture and lesson learned
    - Programs can develop tailored applications

ECMS Infrastructure
- Documentum license
- Basic technical architecture and maintenance
- Governance structure
- Policies, procedures and standards
- ECMS PMO support

Personnel Security Records
Web CMS
Managing Toxic Substances
E-mail Records Application
ECMS Email Records

- Email Records chosen as first Agency-wide application under the “Enterprise Model” in May 2006 because:
  - Email records identified as a vulnerability – hurricanes and litigation
  - Broad use base enabled Agency-wide funding as a Working Capital Fund Service
    - 18,000 EPA users + 5,000 contractors
  - Agency shares a single email system
- ECMS Email records provides a simple way to capture email records from an employee’s Lotus Notes email account
- System automatically captures bulk of metadata
- Captured record is stored and managed in the ECMS records repository
  - Easy search
  - Applies automated retention
The 3 Cornerstones of Development

- User involvement
  - Making ECMS E-mail Records “our” solution
- Technical considerations
  - Taking COTS to custom
- Records considerations
  - Leaping into electronic records
User Involvement
Key Concepts

Developing the e-mail application

- Agency-wide funding group buys off on concept – **senior management buy-in**
- Records staff and a core group develop initial product requirements – **ensures it meets basic requirements**
- On-going communication throughout development and implementation – **user and outreach groups**
- Governance structure established to encourage on-going input and make this “our” solution – **on-going discussion of needs**
User Involvement
Dispersed Communication

- Established/identified 3 key groups for implementation
  - ECMS Program Contacts
  - Records Liaisons
  - Technical Leads
- Communicated with key groups regularly
- Developed outreach materials for Programs to use
  - memo templates, guides, monthly updates
- Developed monthly report cards
- Solicited input through moderated user sessions
- Encouraged on-going input through governance structure
# Implementation Plan

## ECMS E-mail Records Roll-Out Timeline

<table>
<thead>
<tr>
<th></th>
<th>March 1, 2007</th>
<th>April 1, 2007</th>
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<tr>
<td><strong>GROUP 1</strong></td>
<td><strong>GROUP 2</strong></td>
<td><strong>GROUP 3</strong></td>
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<tr>
<td>Records File Structure Due</td>
<td>Org. Hierarchy Due</td>
<td>Start of Small Scale Testing &amp; Deployment</td>
<td>ECMS E-mail Records Available</td>
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<td>Pre-Deployment Testing Package Available</td>
<td>Pre-Deployment Testing Package Available</td>
<td>Pre-Deployment Testing Package Available</td>
<td>Pre-Deployment Testing Package Available</td>
</tr>
</tbody>
</table>

*These groups include all labs and field offices associated with an organization.*
ECMS Governance
Encouraging Involvement

Policy and Technology Governance

ECMS Coordination Committee
- Members – Managers and senior staffers Agency-wide
- Meets - Monthly
- Purview – Oversight and decision on policy, technology and funding decisions with Agency-wide implications

ECMS Email WG
- Members – Appropriate staff from across Agency
- Meets – Monthly
- Purview – Changes and new requirements for the ECMS Email Records application

ECMS Technical & Applications Architecture WG
- Members – Appropriate staff from across Agency
- Meets – Monthly
- Purview – Decisions related to architecture, new functionality, Upgrades and the “Partnership Model” oversight

ECMS Taxonomy & Metadata WG
- Members – Appropriate staff from across Agency
- Meets – 2x monthly
- Purview – Metadata, Taxonomy and XML requirements for ECMS

ECMS PMO
- Members – OEI/OIC staff
- Meets – On-Going
- Purview – Provide daily oversight for ECMS infrastructure, enterprise-wide projects (e.g., email and Partner projects)

Financial Governance

Working Capital Fund (WCF) Board
- Members – Senior staff
- Meets – Quarterly
- Purview – Oversight and decision on WCF services and charges
Lessons Learned

- Determine, confirm and get support for your primary objectives
  - Get buy-in from key user groups
  - Ensure you have management support
  - Establish/leverage mandates!
- Staff need to be grounded in the process you are placing into the content management system
  - Have training, assessment and enforcement mechanisms in place
- Key concepts
  - Be flexible
  - Don’t just “gild the cow path”
  - Users must perceive value in the short-term
  - Usability is key!
  - Get users to “own” the system – provide a mechanism for getting input on continual improvements
Technical Considerations
Buying a COTS Product

- The COTS vs. custom debate
- Major updates required for ECMS E-mail Records:
  - Authoritative real-time personnel source
    - Access control rights
    - Additions, deletions and relocations
  - Ability to identify a small number of frequently used records schedules from a larger list (My Commonly Used Folders)
  - Ability to see where folders fit in the Agency File Structure (Breadcrumbs box)
  - Capture sensitivity requirements
  - Ability to share records with individuals in other organizations
**Technical Considerations**

**Implementation Implications**

- **Considerations**
  - ECMS E-mail records is a client-side application
  - No standard desktop configuration across EPA
  - No centralized management of IT infrastructure – 23+ different approaches
  - Regional implementation completely at discretion of local IT staff
  - Need to provide records and ECMS training
  - Need to support entire organization with a Help Desk
Identity Self Service

Collected organizational hierarchies down to the unit level

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<th>Andrew Battin</th>
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<td>smccoy</td>
<td>Sara Hisel-McCoy</td>
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<td>Matt Leopard</td>
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Identity Self Service

Self-registration screen
ECMS E-mail Records Application

The ECMS E-mail Records button as seen from the Lotus Notes “In Box”
ECMS E-mail Records Application

The Records Classification Screen

Frequently Used Folders

Breadcrumbs Window

Sensitivities

Record(s) being saved and associated attachments (mutually inclusive)

E-mail addresses, names and organizations of non-EPA e-mail addresses (optional).

Version 1.2.6
ECMS E-mail Records Application

Searching for records from the Lotus Notes “In Box”
ECMS E-mail Records Application

Using the “Search” window - metadata vs. full text

Metadata and Full Text Search Available

Search parameters:
Space = "and"
Comma = "or"
ECMS E-mail Records Application

Reviewing search results
By double-clicking on it, the record can be opened as it appeared originally.

The record is opened as it appeared originally.

Constance and Mike,

Please find attached the ECMS Technical Meeting Minutes, October 2, 2007, for your review, approval, and distribution.

Thanks.
Records Considerations
Preparing for ECMS

- Schedules
  - Updated as media neutral, to allow records to be maintained electronically
  - Migrated to XML, to enable portability
<table>
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<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Name</td>
<td>dm_info_0</td>
</tr>
<tr>
<td>Description</td>
<td>Program Management - Other than Sew</td>
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<tr>
<td>Enabled</td>
<td>Yes</td>
</tr>
<tr>
<td>Referenced</td>
<td>False</td>
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<td>Retention Strategy</td>
<td>Individual</td>
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<td>Disposition Strategy</td>
<td>Destroy all</td>
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<td>Select Retention Policy</td>
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<tr>
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<td>Do not change</td>
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<td>Rendition Rule</td>
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<td>Virtual Document Retention Rule</td>
<td>Retain Root and Children</td>
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<td>Snapshot Retention Rule</td>
<td>Retain Root Only</td>
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<td>Extended Immutability Rule</td>
<td>Set Immutable</td>
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<tr>
<td>Extended Rendition Rule</td>
<td>All Renditions</td>
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Records Considerations
Preparing for ECMS

Classification

- Mapped records schedules to the EPA Business Reference Model (BRM), producing a new records classification scheme
- Mandated development of file plans for all EPA organizations
- Encouraged adding “intuitive” folder titles below schedules
- Developed a tool to capture file plans for all EPA organizations
# EPA Business Reference Model

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<th>Code</th>
<th>Description</th>
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<td>Environmental Management</td>
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<td>Environmental Monitoring and Forecasting</td>
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## Agency-wide File Structure

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<th>Title</th>
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<td>305-109</td>
<td>Official Information Dissemination</td>
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<tr>
<td>305-109-02</td>
<td>Public Information and Outreach</td>
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<tr>
<td>305-109-02-04</td>
<td>Provide Public Information, Education and Outreach</td>
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<tr>
<td>250</td>
<td>Publications and Promotional Items</td>
</tr>
<tr>
<td>a</td>
<td>Record copy of publication or promotional items depicting Agency or program mission activities</td>
</tr>
<tr>
<td>b</td>
<td>Record copy of routine publications or promotional items</td>
</tr>
<tr>
<td>c</td>
<td>Record copy of working papers and background materials</td>
</tr>
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<td>File Code</td>
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Records Considerations
Additional Development

• Designed simple, but powerful administrative tools
  • Organization Administration
  • File Plan Administration
  • Records Administration
  • Advanced Search / Global Update
  • Reporting
Organizational Admin - Microsoft Internet Explorer

Current Office: Collection Strategies Division

Organization

Office File Plan

Agency File Plan

Print File Plan

Name: ECMS - Budget - FY.09 (301-063 006b)
Created By: ecmadmin Modified By: ecmadmin

Office File Plan Folder Status: The current folder is Open.
For More Information

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