



EPA's Web Content Management System - the future is now

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The Why, What, & How of EPA's WebCMS

- Why is a Web CMS necessary – what mission goals does it fulfill?
- What exactly is a “Web Content Management System”?
- How do I begin using it?
- And when?



The State of EPA's Web Site

- EPA's Web site is the primary method of distributing information to EPA's many stakeholders
 - (35-48 million page requests/month)
- Several million unique visitors monthly
- A wide range of audiences
- EPA has a high Web maintenance cost
 - \$8-\$12 million every year
- EPA relies heavily on contractor support to maintain the status quo



What is the Problem *Exactly*?

EPA.gov visitors want, need and expect this:



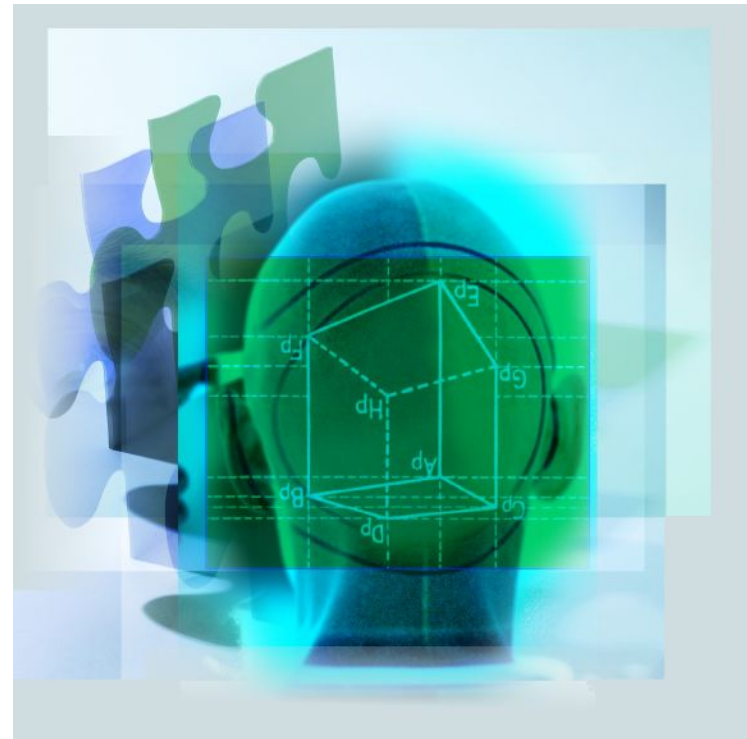


EPA's Web Site Needs Improvement

- **EPA's ACSI (American Customer Satisfaction Index) SCORES below federal average**
- **Multiple approaches to creating, managing, and publishing web pages create these problems**
 - Confusing navigation
 - Incomplete & inconsistent metadata = poor search results
 - Broken links
 - Stove-piped, inconsistent and outdated information



It's time for the Agency
to rethink the
way we create,
manage, and
publish our
Web content





Project Goals

- A significant improvement in the usability of epa.gov as a primary source of environmental information
- Measurable audience satisfaction improvements (ACSI scores)
- Reduce “ROT” (Redundant, Outdated, or Trivial content) and its support costs
- Substantive, measurable support cost reduction
- Much better prepared for crisis communications

Web Information Architecture and WebCMS Benefits



- Visitor browsing more flexible
- Improved search results
- Near-elimination of internal broken links
- Create RSS feeds simply
- Reduce Web maintenance costs
- **Increase visitor satisfaction**



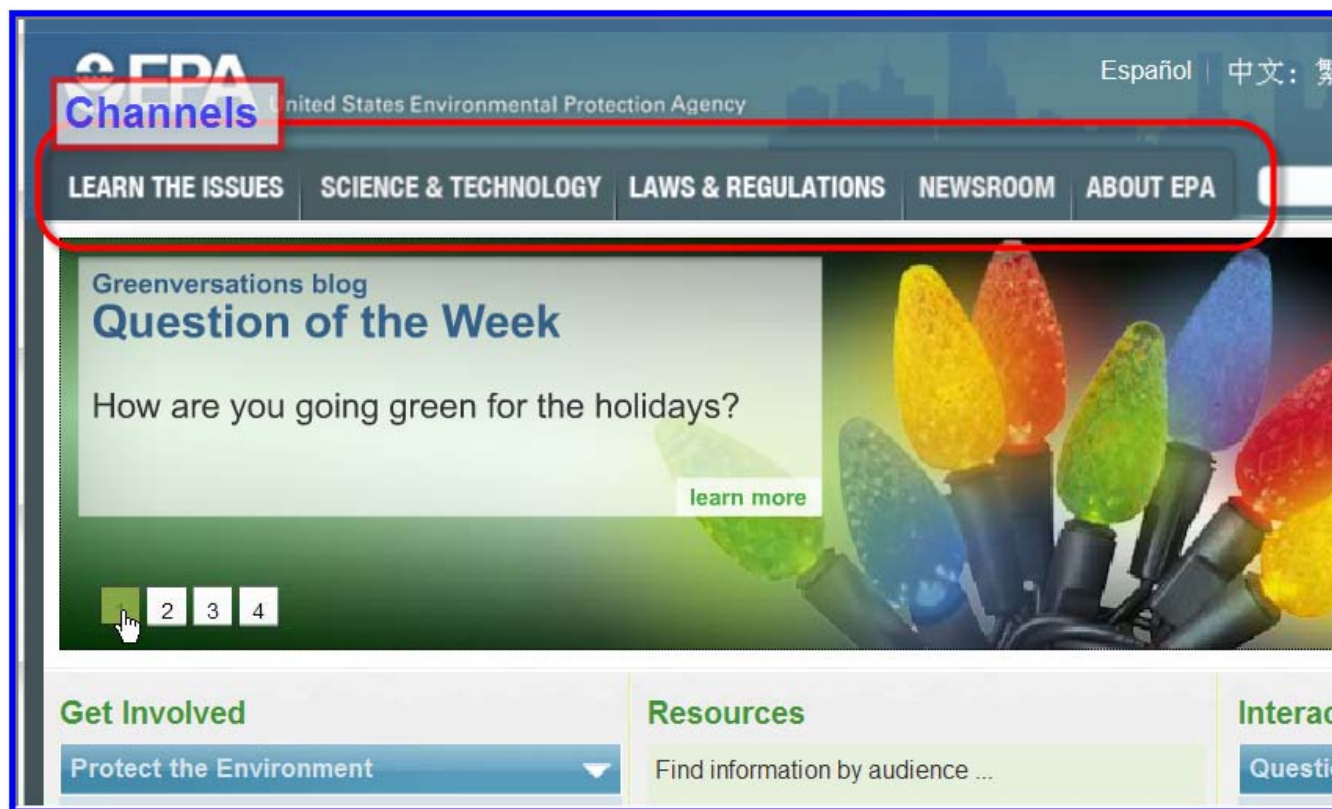
Now let's look at how we achieve those goals...

- How?
 - A new Information Architecture

Web Information Architecture – Channels



- Learn the Issues
- Laws & Regulations
- Science & Technology
- About EPA



Information Architecture



Laws & Regulations

- Regulatory Process
- Regulations & Proposed Rules
- Environmental Laws
- Policy Guidance
- Compliance & Enforcement
- Regulatory Information by Topic
- Regulatory Information by Business Sector

Learn the Issues

- Air
- Climate
- Ecosystems
- Emergency Preparedness
- Green Living
- Health Effects
- Pollution
- Water
- Education

Science & Technology

- Research
- Applied Technology
- Models, Methods, Databases & Other
- Air Science
- Health Sciences
- Climate Science
- Ecosystem Science
- Land Remediation Science
- Pollutants and Other Substances
- Water Science
- Grants & Fellowships

About EPA

- Planning & Results
- Organization
- History
- Doing Business with EPA
- Working for EPA



Information Architecture – Topics Pages

- Default overview in plain language
- Tab for more technical details
- Tab for Spanish-language overview

The screenshot shows the EPA website's Asthma page. At the top, there is a navigation bar with the EPA logo and the text "United States Environmental Protection Agency". To the right of the logo are language options: "Español" and "中文: 繁體版". Below the navigation bar are several tabs: "Learn the Issues", "Science & Technology", "Laws & Regulations", "A-Z Topics", "Newsroom", and "About EPA". The "A-Z Topics" tab is currently selected. Below the tabs, there is a breadcrumb trail: "You are here: [EPA Home](#) >> [A-Z Topics](#) >> Asthma".

Below the breadcrumb trail are three buttons: "Asthma Overview", "Technical Details", and "En Espanol". The "Asthma Overview" button is highlighted with a blue circle labeled 'C'. Below the buttons is a large content area with a blue circle labeled 'A' in the top right corner. The content area contains the following text:

General overview about the topic written in plain language.

What is Asthma?
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam interdum. Donec accumsan, purus ut viverra pharetra, augue tellus vehicula orci, eget consectetur neque tortor id ante.

Asthma Facts:
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nam interdum.

Donec accumsan, purus ut viverra pharetra, augue tellus vehicula orci, eget consectetur neque tortor id ante.

Below the content area are three dropdown menus:

- Asthma in Learn the Issues
- Asthma in Science & Technology
- Asthma in Laws & Regulations

On the right side of the page, there is a "Related" section with a blue circle labeled 'A' in the top right corner. The "Related" section contains the following links:

- [Asthma PDF \(7\)](#)
- [Clearing Air Exposure National](#)
- [All Asthma](#)
- [Get In](#)
- [May is](#)
- [Indoor Program](#)
- [All Get](#)



How?

A “Web Content Management System”

- There are many definitions...
 - "A combination of clearly-defined roles, formal processes, and a supporting systems architecture used by companies to produce, collaborate on, monitor, and publish Internet sites." - Forrester Research
 - "A system that lets you apply management principles to Web content." - CMS Watch
- Here's a definition for EPA:
 - **EPA's WebCMS is a software system for the creation, management, and publishing of our Web content.**

EPA's Web Content Management System...



- Will provide content that is discoverable and accessible, relevant, accurate, timely, and complete through these features:
 - requires tagging Web content with metadata as part of page-creation process
 - Provides an automated classification engine
 - Facilitates building topical sites - using that metadata
 - Enables "intelligent pages" – business rules & metadata
 - Enables policy monitoring and enforcement



EPA's Web Content Management System...

- Replaces methods we use today that give us content that is:
 - **hard to find, and at times almost completely inaccessible**
 - **inaccurate, redundant, inconsistent**
 - **incomplete**
 - **out-of-date**

 - **all because of the tremendous labor burden necessary to achieve these management principles.**

Web Pages with Metadata



```
EPA Template 3.2.1, automatically

Source of: http://134.67.160.58:8081/OSWER/osw/conserve/2007news/01-amr.htm - Mozilla Firefox
File Edit View Help

<!DOCTYPE HTML PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd" >
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:java="http://www.w3.org/2001/XMLSchema" >
  <!-- EPA Template version 3.2.1, 28 June 2006 -->
  <head>
    <title>Staten Island Mall Declared 2006 Recycler of the Year | Resource Conservation Challenge (RCC) Newsroom | US EPA</title>
    <!-- Dc.Title meta keyword -->
    <meta name="DC.title" content="Staten Island Mall Declared 2006 Recycler of the Year | Resource Conservation Challenge (RCC) Newsroom | US EPA" />
    <!-- Dc.description meta keyword -->
    <meta name="DC.description" content="news story about Staten Island Mall, winner of the 2006 Resource Conservation Challenge (RCC) Newsroom | US EPA" />
    <!-- Dc.keywords meta keyword -->
    <meta name="keywords" content="consumers,pollution prevention,RCC,Resource Conservation Challenge" />
    <meta name="DC.Subject.eparegulation" content="" />
    <meta name="DC.Subject.epaindustry" content="" />
    <meta name="DC.Subject.substance" content="Municipal Solid Waste," />
    <meta name="DC.Subject.epacat" content="Communities," />
    <meta name="DC.Subject.epaect" content="" />
    <meta name="DC.Subject.epaemt" content="Wastes," />
    <meta name="DC.Subject.epahealth" content="" />
    <meta name="DC.Subject.industrial" content="" />
    <meta name="DC.Subject.organization" content="" />
    <meta name="DC.Subject.eparp" content="Recycling,Conservation,Waste Reduction." />
    <meta name="DC.audience" content="" />
    <meta name="DC.coverage" content="City," />
    <meta name="DC.type" content="" />
    <!-- For date metadata, use the format YYYY-MM-DD -->
    <!-- DC.date.modified meta keyword -->
    <meta name="DC.date.modified" content="0001-01-01" />
    <!-- DC.date.modified meta keyword -->
    <meta name="DC.date.created" content="0001-01-01" />
    <!-- DC.date.reviewed meta keyword -->
    <meta name="DC.date.reviewed" content="0001-01-01" />
    <meta name="DC.language" content="en" />
    <!-- DC.creator meta keyword -->
    <meta name="DC.creator" content="" />
    <link rel="schema.DC" href="http://purl.org/dc/elements/1.1/" />
    <link type="application/rdf+xml" title="ICRA labels" rel="meta" href="http://www.epa.gov/labe" />
    <meta http-equiv="Content-Style-Type" content="text/css" />
    <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
    <style type="text/css" media="screen">@import 'http://www.epa.gov/epafiles/s/epa.css';</style>
    <link type="text/css" rel="stylesheet" media="print" href="http://www.epa.gov/epafiles/s/print.css" />
    <script type="text/javascript" src="http://www.epa.gov/epafiles/is/epa-core.js"></script>
```

WebCMS – “Intelligent Pages”



The screenshot shows the EPA.gov website for the Asthma topic. It features a search bar, navigation links, and several content boxes. Three callouts provide details about the content:

- Top Right Callout:** This box populated by Asthma Topic Master through repository search. (Points to the 'Indoor Environmental Asthma Triggers' box)
- Middle Right Callout:** Channel Boxes: Auto-populated by site-wide ruleset managed at OPA or cognizant office. (Points to the 'Laws & Regulations' channel box)
- Bottom Right Callout:** Box Rule: Most current 2 press releases WHERE topic="Asthma" AND some other condition. (Points to the 'Related News & Events' box)

The page content includes:

- Search EPA.gov with a search bar and 'Advanced Search' options.
- Navigation: About EPA / Newsroom / Contact / Jobs / Help / Espanol
- Breadcrumb: You are here: EPA Home >> Browse all Topics >> Human Health >> Asthma
- Left sidebar: Laws & Regulations, Science & Technology, Education & Awareness, Local Information.
- Main content: Asthma Overview, Technical Details, En Espanol. Includes sections for 'What is Asthma?', 'Asthma Facts', and 'For More Information'.
- Right sidebar: Indoor Environmental Asthma Triggers (listing Secondhand Smoke, Dust Mites, etc.), Related Publications (listing Asthma Research Strategy PDF, etc.), Related News & Events (listing May is Asthma Awareness Month, etc.), and Related Programs & Partners (listing American Lung Association, etc.).
- Footer: Footer Navigation - links to: EPA Home / Accessibility / Privacy and Security Notice / FOIA / NoFEAR Act / Whitehouse.gov / FirstGov.gov / Regulations.gov

That information comes from...



Agency Taxonomy fields auto-populated here available for review and completion

Web Publisher | Region 1: New England | US E... | Properties: WCMS File Info

WCMS File Info | Taxonomy | WEBI | Doc Info | Publishing | Subscriptions | History

01-amr.xml
Staten Island Mall Declared 2006 Recycler of the Year | Resource Conservation Challenge (RCC) Newsroom | US EPA

Below are the required metadata fields for this web document. Please check the pre-populated fields for accuracy and make all necessary corrections and additions. All fields on this screen must be completed. Then move to the next screen=> for the web taxonomy

Title (DC.title): Staten Island Mall Declared 2006 Recycler of the Year | Resource Conservation Challenge (RCC) Newsro

Description (DC.description): news story about Staten Island Mall, winner of the 2006 America's Marketplace Recycles Award

Date Created (DC.date.created): Date

Publisher (DC.creator): US EPA, OSWER, Office of Solid Waste

Agency Function (DC.subject.epabrm): Prevent Pollution [Edit]

Information Type (DC.type): Basic Facts & Information [Edit]

Channel (DC.epa.channel): Topics [Edit]

Language (DC.language): EN

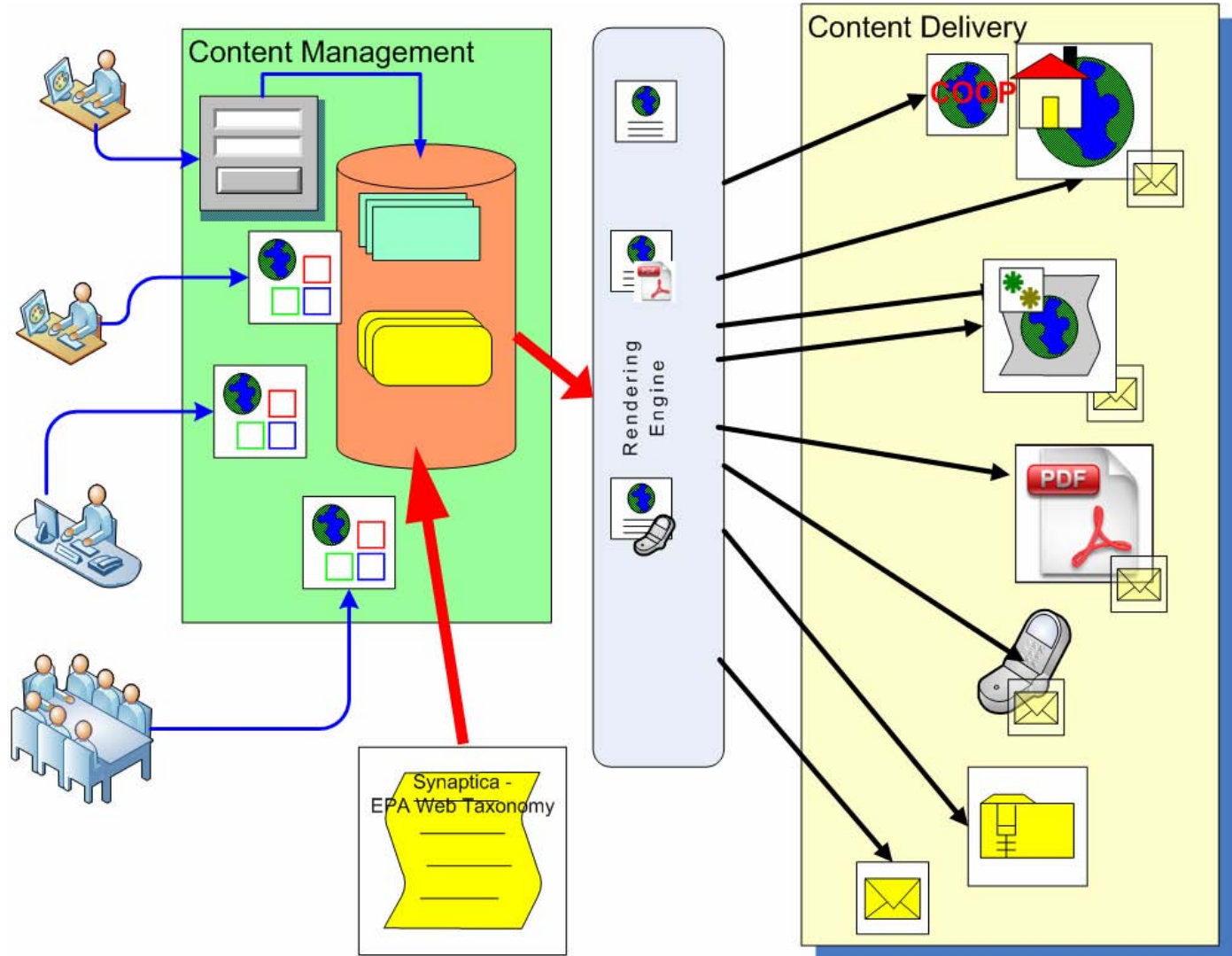
Review Content (DC.date.reviewed): Oct 18, 2008

[Apply] [OK] [Cancel]

WebCMS – The Future



Content Management
and
Content Delivery

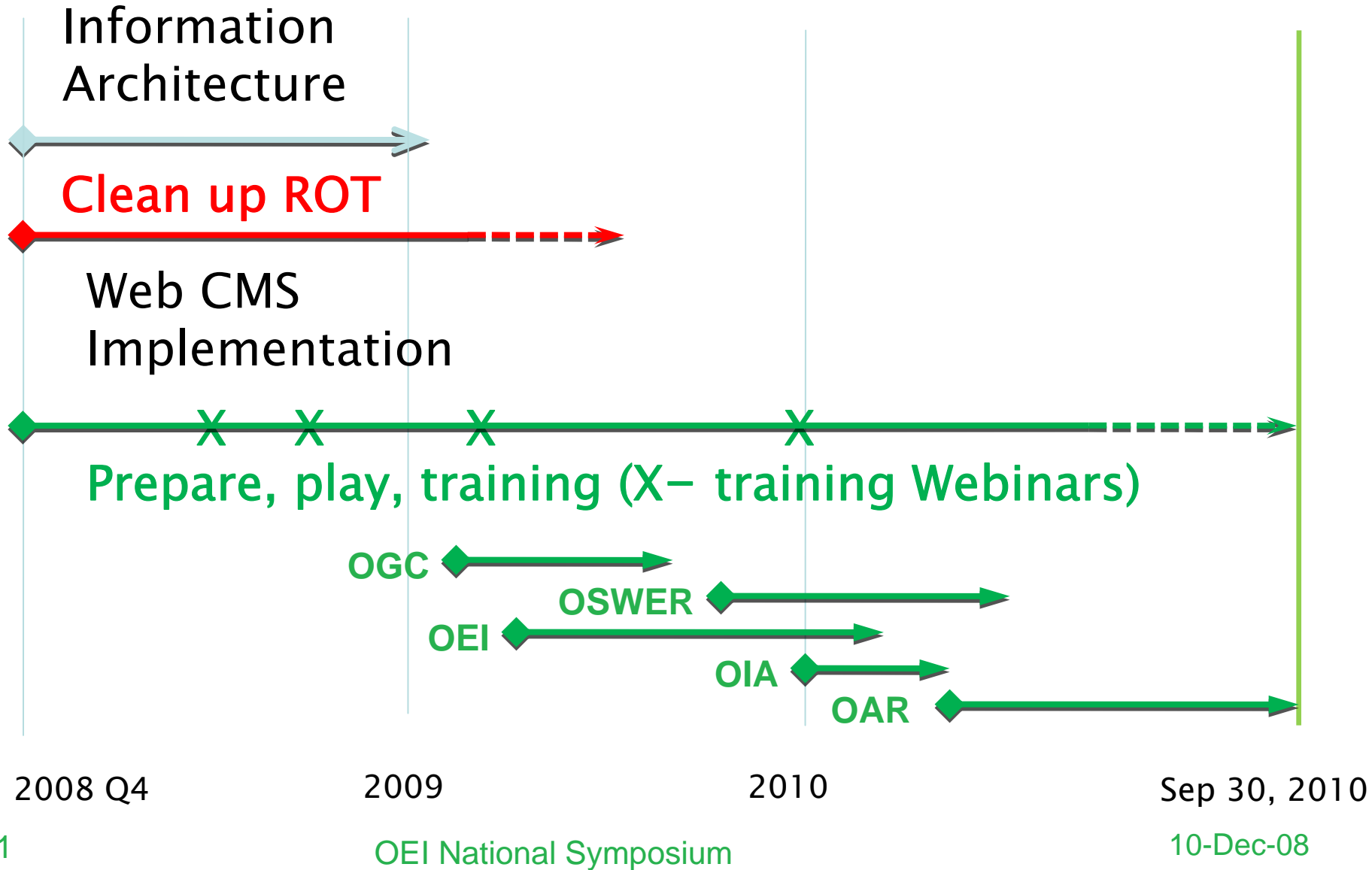


How, technically?



- The content is totally separate from presentation style
- Single look and feel file can apply to ½ million files instead of being in ½ a million files
- Content files very small
- Owners can edit content or metadata individually

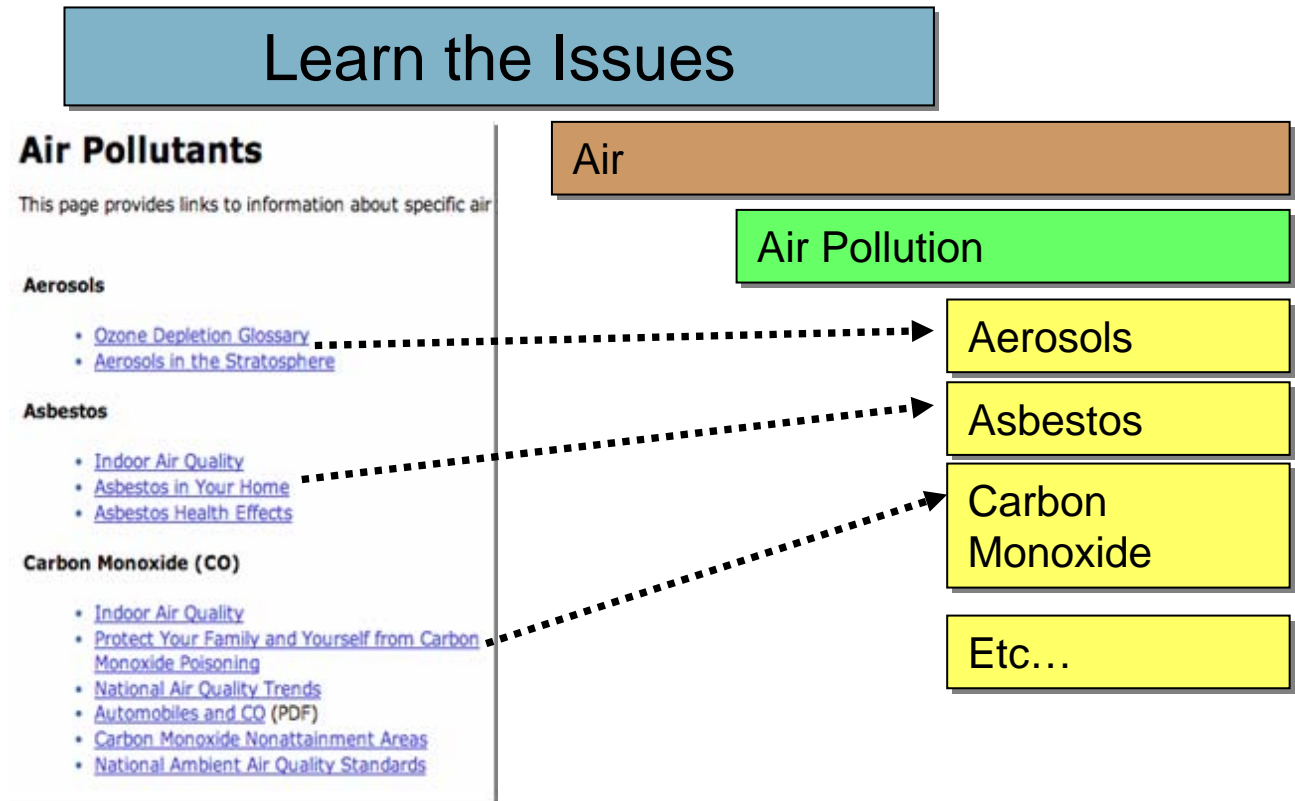
When?



Content Migration – Information Architecture



- Map existing Office and Regional content to Information Architecture



What does migration look like?

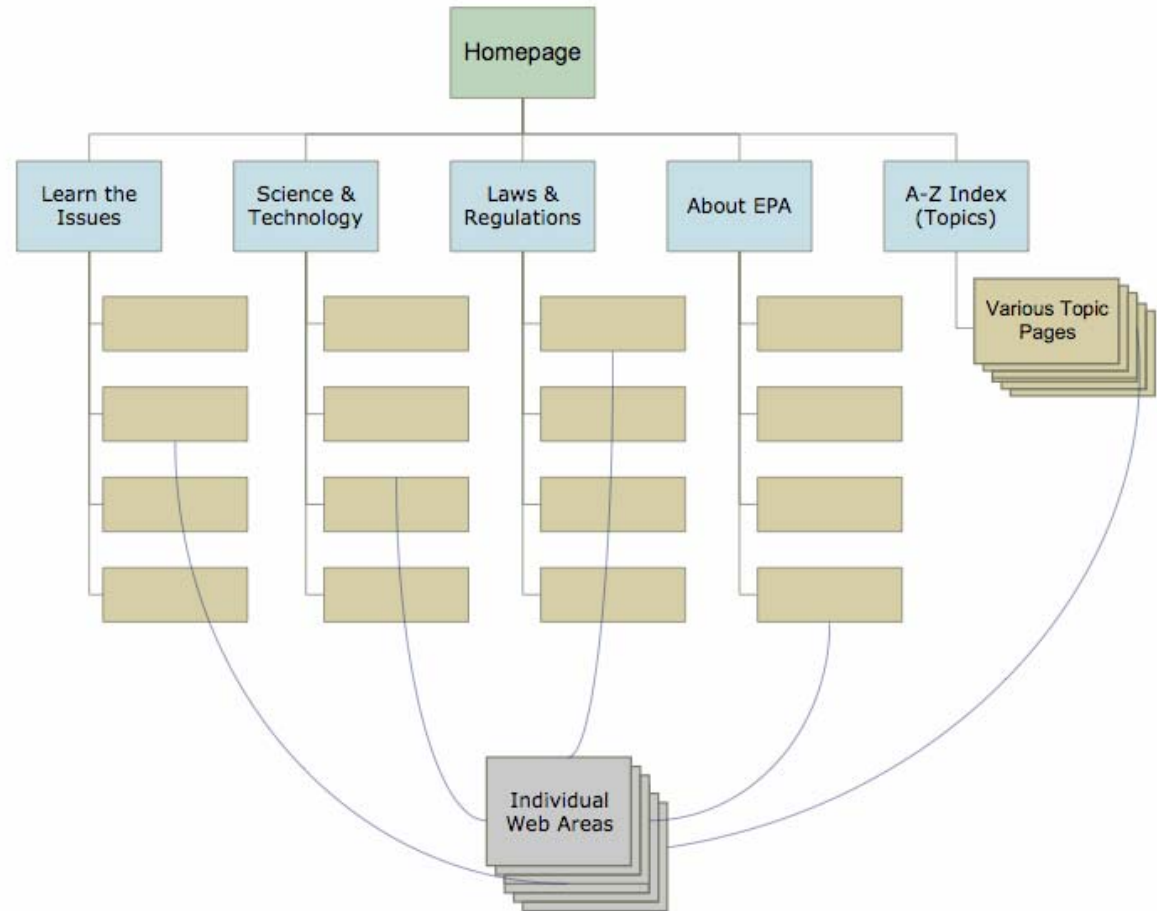


- Address ROT identified this year (delete, republish, ...)
- Identify content that will be migrated
- Complete metadata spreadsheet for batch-tagging
- Extract – transform – load existing content into WebCMS
- Auto-tag additional metadata with classification engine
- Review tagged content
- Publish
- Begin creating new content in the WebCMS
- Become a Topical Editor

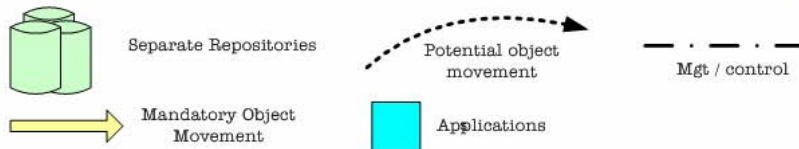
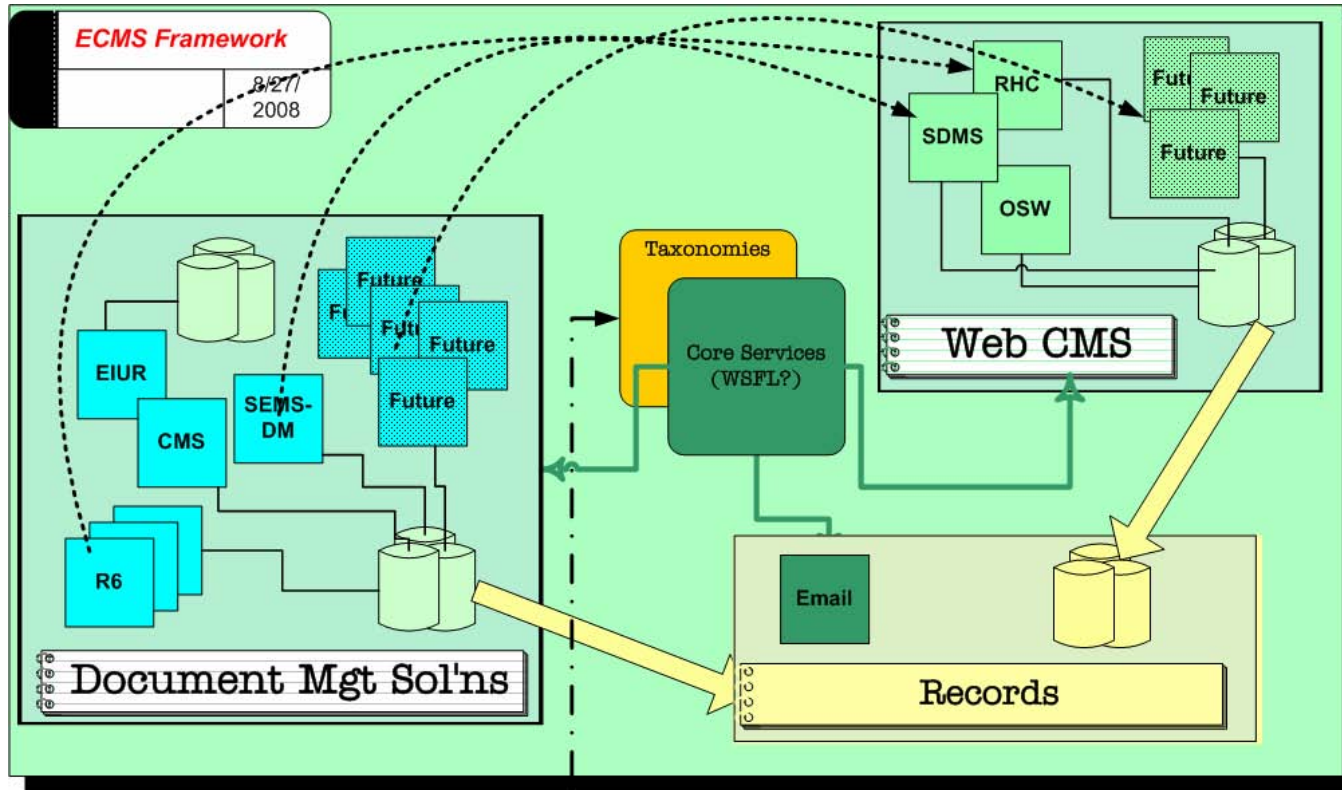
Information Architecture – Building Topical Areas



- Channels
 - Editor links to existing content
- Topical Sites
 - Editors link to existing content



Web CMS & ECMS – the future



History of EPA

Web Quality-Improvement Projects



2002 – Topical Organization attempted

2004 - Strategic Roadmap

2004 - Web Governance

2005 - Information Architecture Strategy

2006 - Taxonomy

2006 - Search Engine Replacement

2006-2007 - Web CMS Pilots

2008–2010 Content Migration

Project Goals - Recap



- A quantum improvement in the usability of epa.gov as a primary source of environmental information –
“information that is discoverable and accessible, accurate, timely, and complete”
- Measurable audience satisfaction improvements (ACSI scores)
- Reduce “ROT” and its support costs
- Significant, measurable support cost reduction
- Much better prepared for crisis communications
- **The WebCMS is the only way to achieve this**
- ***The time is now.***

Let us hear from you!



- Visit <http://intranet.epa.gov/webcms>
 - (includes links to guidance Wiki + Q&A blog)
- Project Team
 - John Shirey, Judy Dew, Susan Fagan, Don Worley (SEE)
 - Jonda Byrd, National Web Infrastructure Manager
- OEI/OIAA
 - Mike Flynn, Office Director
 - Rick Martin, Deputy
- Information Access Division
 - Emma McNamara, Director