Introduction to Web Collaboration Technologies

By Sarah Buchanan

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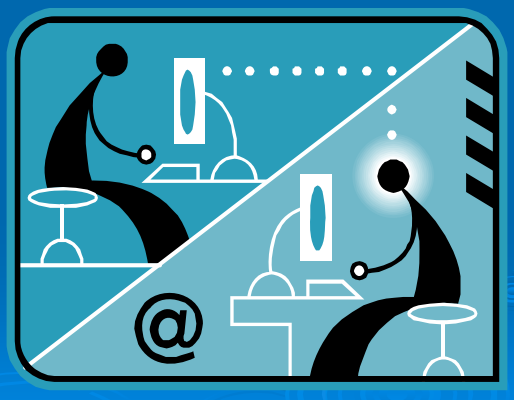
1

What Are Web Collaboration Technologies?

Collaborative Software

- E-mail
- Text Chat
  - Blogs
  - Wiki
- Social networks
  - Facebook
  - Friendster



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Types of Collaboration Techniques

- *Knowledge management tools*
- *Knowledge creation tools*
- *Information sharing tools*
- *Collaborative project management tools*

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How Did all this come about?

- Internet
- Message Boards/Chat Rooms
- IRC and AOL Instant Messenger
- Personal Web pages
- Google
- Online Journals and Blogs
- Social Networking
- Youtube
- Wikipedia
- Web 2.0
- Collaborative Spaces

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Social Networking & Web 2.0

- Myspace
- Youtube
- Flickr
- Facebook
- Wikipedia
- Blogs
- Mashups

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Google

- Intelligent Search Engine
- Google Maps/Google Earth
- Images
- G-mail
  - G-mail Calendar
  - G-mail Chat
- Google Documents
- *i*Google

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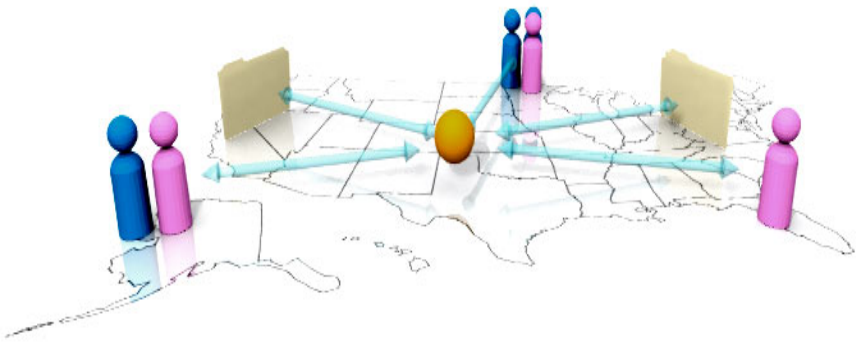
Collaborate with your peers through online meetings and file sharing capabilities



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Benefits?

- Long-distance collaboration
- Instant Feedback= Instant Success
- Exchange of ideas
- Central location
- One stop shop
- Controlled access
- Tagging

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Challenges?

- So many choices
- Stove Pipe organization
- Each community has different needs
- Quality Control
- Risks
  - No one will contribute
  - Digital Divide
  - Inappropriate content

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What is EPA doing?

- Flow of the River
- Puget Sound Wiki
- Multimedia Center
- Portal
  - ESC
- Lotus Notes

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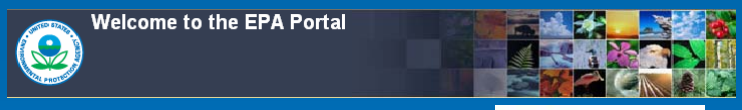
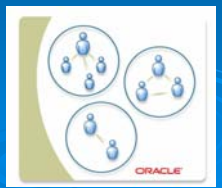
Collaborative Software

Within EPA





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But what will work for you?

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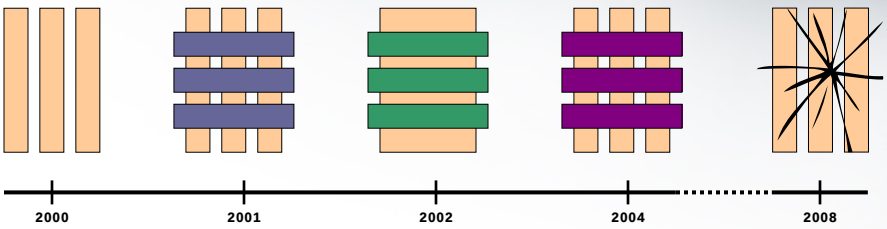
Quality Collaboration

Kevin J. Kirby
EPA Enterprise Data Architect
(202) 566-1656

Evolution of E-Government



- Prior to the E-Government Act, agencies worked in silos

- In 2001, 25 Quicksilver initiatives were identified
- E-Government Act of 2002 endorses and requires Agencies to support cross-agency initiatives
- Ultimately, creates "horizontal silos"

- In 2002, development of the Federal Enterprise Architecture commences
- Intended to simplify processes and unify work across agencies
- Reference models bring back an intra-agency focus

- In 2004, 5 Lines of Business task forces are formed
- Since expanded, the LOBs bring back a cross-agency approach but remain focused on driving down transaction costs in management and support functions

The challenge going forward will be to:

- Foster adoption of Web 2.0 functionality in government
- Move beyond a horizontal approach to a networked approach
- Focus on mission-critical activities
- Drive towards simplicity

Creating an Opportunity for Public Sector Leaders

Wikinomics

- Book by Don Tapscott and Anthony D. Williams explores how organizations use mass collaboration (also called peer production) and open-source technology such as wikis to be successful
- According to the authors, wikinomics is based on four ideas: Openness, Peering, Sharing, and Acting Globally
- Employees drive performance by collaborating with peers across organizational boundaries, creating a "wiki workplace"

Medici Effect

- Frans Johansson describes how we can find intersections in our own lives and turn the ideas we find there into pathbreaking innovations
- Three driving forces—the movement of people, the convergence of scientific disciplines, and the leap in computational power—are increasing the number and types of intersections we can access
- The theory explores the concept of cross-field and cross-cultural combinations and to offer clear guidance on how to make such an approach work effectively

SPEED
AGILITY
REACH
EFFICIENCY

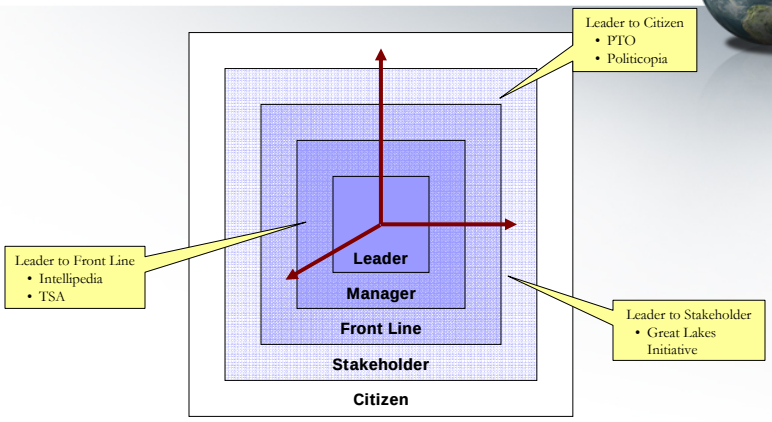
Transparency

- Blacked Out: Government Secrecy in the Information Age by Alasdair Roberts shows that despite advances made with the 1966 Freedom of Information Act, there are those who continue to promote government secrecy
- Privatization of public services, the rise of powerful international organizations, and the growth of tight knit networks of security agencies are complicating campaigns for openness
- New developments in IT enable greater openness and remove barriers to transparency

Swarm Intelligence

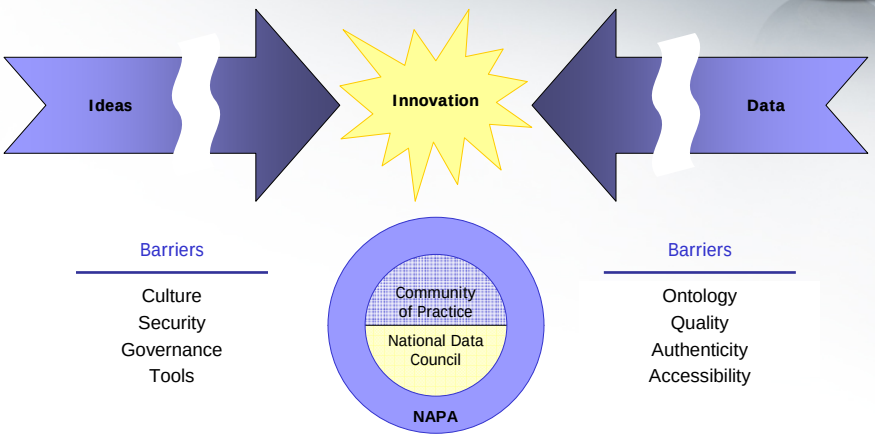
- Swarm Intelligence is a concept of artificial intelligence based on the study of collective behavior in decentralized, self-organized systems
- The inherent intelligence of swarms, when examined, reveals that the collective movements of an aggregate often derive from independent decision making on part of a single individual
- Such knowledge encourages individual decision making as an effective tool in bringing about widespread social change

Focus on the Management Approach, NOT the Technology Solution



Innovative leaders are using collaborative approaches and tools to solve government's toughest challenges

Where Innovation Occurs: The Intersection of Data and Ideas

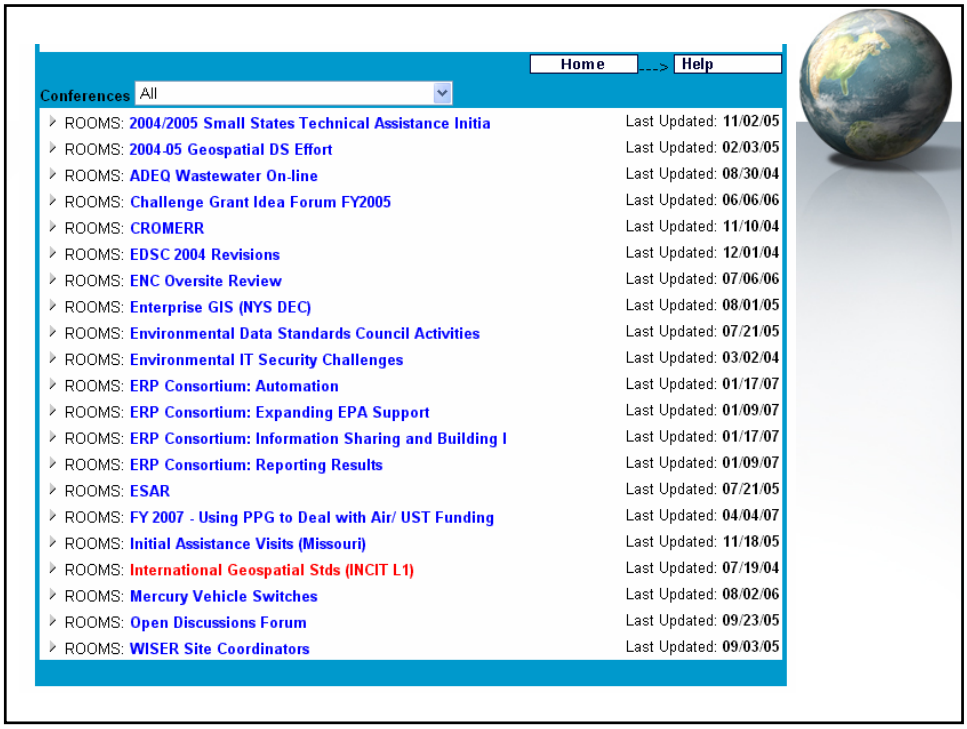


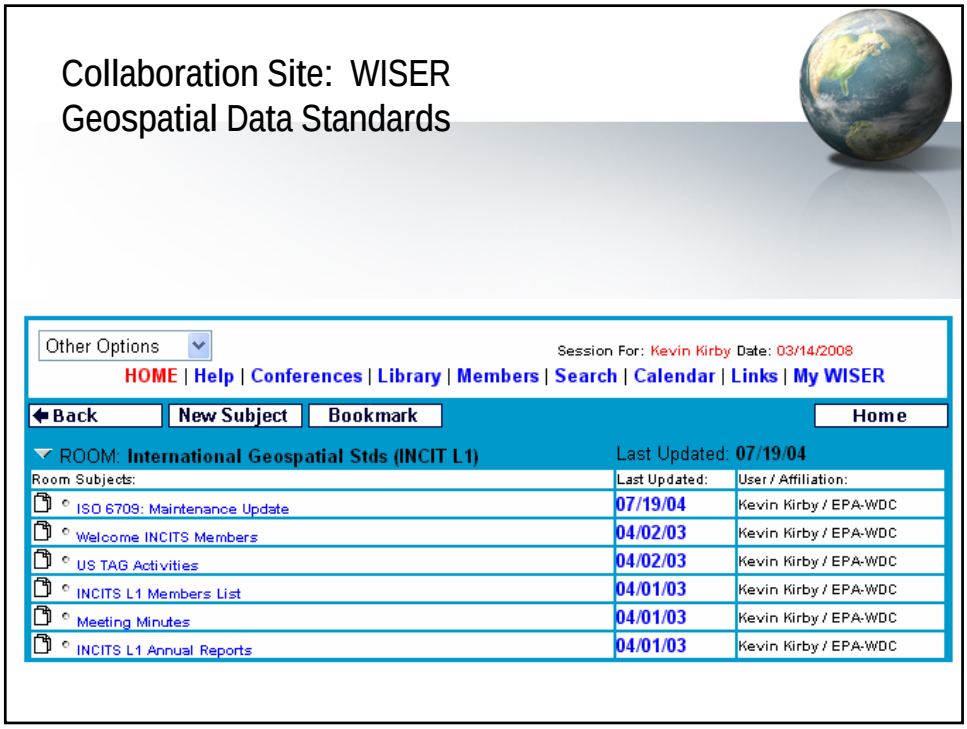
But barriers must be bridged if we hope to realize the full potential of Web 2.0

Collaboration Site: WISER Geospatial Data Standards

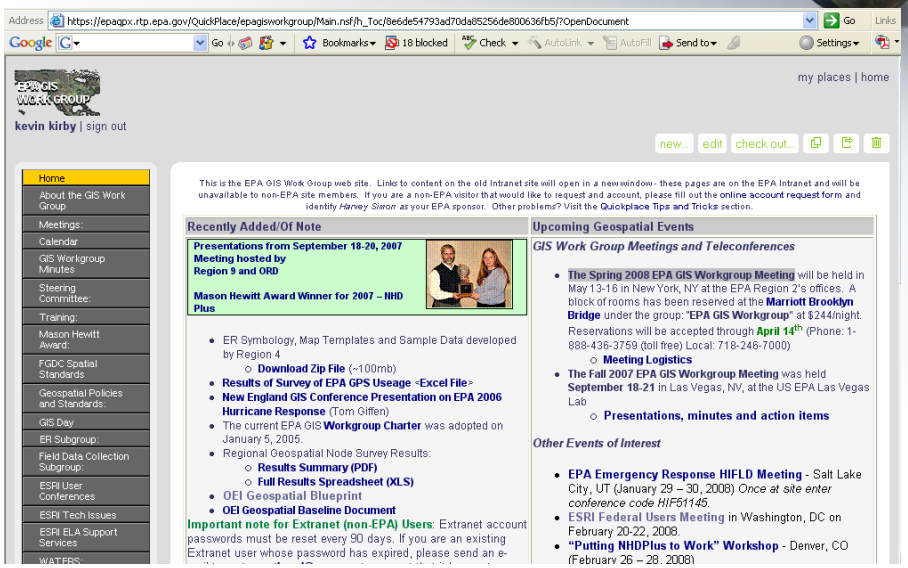
WISER in a nutshell:

- Enviro. Data Standards
- State/Fed partnerships
- Maintained by R5


Home --> Help
Conferences All
ROOMS: 2004/2005 Small States Technical Assistance Initia Last Updated: 11/02/05
ROOMS: 2004-05 Geospatial DS Effort Last Updated: 02/03/05
ROOMS: ADEQ Wastewater On-line Last Updated: 08/30/04
ROOMS: Challenge Grant Idea Forum FY2005 Last Updated: 06/06/06
ROOMS: CROMERR Last Updated: 11/10/04
ROOMS: EDSC 2004 Revisions Last Updated: 12/01/04
ROOMS: ENC Oversite Review Last Updated: 07/06/06
ROOMS: Enterprise GIS (NYS DEC) Last Updated: 08/01/05
ROOMS: Environmental Data Standards Council Activities Last Updated: 07/21/05
ROOMS: Environmental IT Security Challenges Last Updated: 03/02/04
ROOMS: ERP Consortium: Automation Last Updated: 01/17/07
ROOMS: ERP Consortium: Expanding EPA Support Last Updated: 01/09/07
ROOMS: ERP Consortium: Information Sharing and Building I Last Updated: 01/17/07
ROOMS: ERP Consortium: Reporting Results Last Updated: 01/09/07
ROOMS: ESAR Last Updated: 07/21/05
ROOMS: FY 2007 - Using PPG to Deal with Air/ UST Funding Last Updated: 04/04/07
ROOMS: Initial Assistance Visits (Missouri) Last Updated: 11/18/05
ROOMS: International Geospatial Stds (INCIT L1) Last Updated: 07/19/04
ROOMS: Mercury Vehicle Switches Last Updated: 08/02/06
ROOMS: Open Discussions Forum Last Updated: 09/23/05
ROOMS: WISER Site Coordinators Last Updated: 09/03/05


Collaboration Site: WISER
Geospatial Data Standards
Other Options
Session For: Kevin Kirby Date: 03/14/2008
HOME | Help | Conferences | Library | Members | Search | Calendar | Links | My WISER
Back
New Subject
Bookmark
Home
ROOM: International Geospatial Stds (INCIT L1)
Last Updated: 07/19/04
Room Subjects:
Last Updated:
User / Affiliation:
ISO 6709: Maintenance Update 07/19/04 Kevin Kirby / EPA-WDC
Welcome INCITS Members 04/02/03 Kevin Kirby / EPA-WDC
US TAG Activities 04/02/03 Kevin Kirby / EPA-WDC
INCITS L1 Members List 04/01/03 Kevin Kirby / EPA-WDC
Meeting Minutes 04/01/03 Kevin Kirby / EPA-WDC
INCITS L1 Annual Reports 04/01/03 Kevin Kirby / EPA-WDC

Collaboration Site: LOTUS Quick Place
EPA Geospatial Information Systems Work Group



Collaboration Site: EPA Metadata COI

Data Architecture	Component	Specific Artifact	Example
DRM 2.0 (1)	Description	Metadata (4)	Spreadsheet *
	Context	Taxonomy/Ontology (5)	Web 2.5 Wiki
	Sharing	Data (4)	Spreadsheet *
DRM 3.0 (2)	Semantics (3)	RDF/SPARQL (6)	Middleware
	SOA	Services (7)	Web 2.5 Wiki (8)

Collaboration Site: CORE.gov Data Architecture

Setting up a Collaboration Site
Key considerations

OSWER Collaboration Tool Experiences

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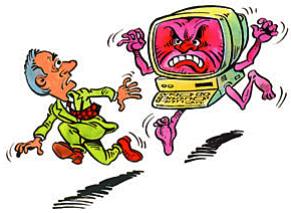
What has OSWER used?

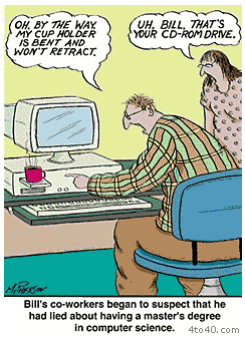
- Portal Web Conference
- Portal Discussion Board
- Portal File or Content Services
- Portal Collaboration Spaces
  - Environmental Science Connector
  - Collaborative Workspaces
- Portal Oracle Messenger (IM Client)
- QuickPlace
- Sametime
- Sametime Connect (IM Client)
- WebEx
- GoToMeeting
- NetMeeting
- Adobe Connect
- The Teleconference Center Online Meeting Services
- And much much more

Tools are managed by different groups with varying levels of support, outreach, and training

Approach to cover this material

- Users/Customers have HUGE range in "IT savviness"





Bill's co-workers began to suspect that he had lied about having a master's degree in computer science. 4to40.com

I've tried include information for all groups… so we may skip around depending on the audience

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One final warning…

- Everything that I will cover today is a **tool**, not a salvation
- These tools can be used to **<u>efficiently communicate</u>** with team members and ***centrally manage information for a project***
- Their success depends on ***your*** implementation, enforcement, and support!

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Here are few tools available to you – across EPA – for online meetings

- Oracle Web Conference
  - http://portal.epa.gov/webconference
- Sametime
  - https://epastx.rtp.epa.gov/epacenter.nsf
- WebEx through Meeting Visuals (WCF)
  - www.meetingvisuals.com
- The Teleconferencing Center (WCF)
  - http://www.teleconferencingcenter.com/

Why would you use this?

- Limited travel funds
- Reduced budgets for training
- Schedule conflicts make travel difficult
- Flexiplace, Alternative Work Schedule have staff spread out physically
- Pandemic Situations
- Increased need to outreach to public & partners

Oracle Web Conference

- Share live documents so that participants can watch you move through slides or other files as if they were in the room with you
- Share other applications on your computer
- Give control of your computer to other participants
- Let other participants share materials from their computers with others
- Poll the audience
- Chat with host, public, or groups of participants
- Record entire event for future download or replay
- Send automatic emails with links to preloaded documents
- And more….

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Oracle Web Conference

Pros

- No cost to use
- Full options of screen sharing, document upload, whiteboard, polling, etc
- Audio integrated into web interface → could help eliminate other costs
- Public site, no username/password required aside from conference key
- Free recording
- Stable and very close to real-time display

Cons

- Additional installation or software required to use
- Works only with Windows and IE
- Some limited issues with connection and stability
- Recorded events are downloaded as .exe
- Whiteboard has no text option
- Screen resolution can cause “fit” problems
- Audio can only be streamed with PC microphone

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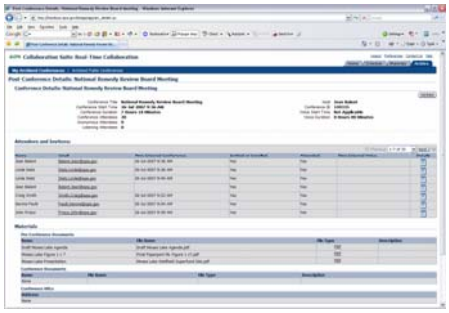
OSWER Experiences with Oracle Web Conferences

- CPRM Training
- Superfund Remedy Review Board
- ORD/OSWER Seminar Series
- Triad Conference Planning
- R3 Technical Support Meeting
- QuickPlace “tech support”
- Flexiplace

Superfund Remedy Review Board Meeting

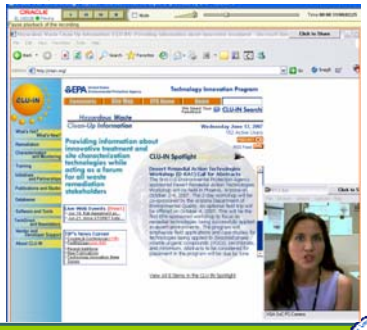
- Need:
  - bring together 20 regional and HQ experts to review info about a proposed NPL site and
  - **create a response document** with comments from all participants



- Experience:
  - Over 6 hour event held online using the web conference
  - RPM and consultants went through PowerPoint slides and reviewed maps
  - **Alternated control** to highlight various site elements to stimulate and support dialogs
  - **Saved ~20K in travel expenses and 40 hrs of travel comp time**
    - **Some preferred in-person meeting** to commit time
  - Produced a **first draft response document completely online**
    - Learned that with shared control, you cannot “cut and paste” into shared document

Flexiplace

- Need
  - Some staff provide routine help or assistance that can best be served in person
  - These staff also work AWS or flexiplace schedules to help meet Agency goals promoting these programs



- Experience
  - A web conference is scheduled in advance for the date of flexiplace
  - **URL and instructions provided in out of office email settings** along with **Lotus Notes calendar entries** to let others know how to reach the staff member
  - Flexiplace web conference is also left open to all members and placed on public calendar for additional easy access
  - Web conference makes the **staff member as accessible** as if they were in the office
  - Web conference also **keeps record of time worked** as well as partners that joined them online

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Tips for Successful Web Conferences

- **Proper planning and preparation is the key to a successful event, whether online or in person.**
- **Offer people multiple ways to participate (phone, stream audio online, etc)**
- **Provide back-up option to access files for "worst case scenario"**
- **Demo software with instructors ahead of time to test features**
- **Offer tests to participants to troubleshoot problems in advance**
- **Start event ~30 mins prior to scheduled delivery time to allow people the time to sign in and get situated**

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Tips for Successful Web Conferences

- Questions to consider for a web conference:
  - Who will participate (EPA or non-EPA)?
  - What is the IT knowledge-level of your participants?
    - You may need to prepare for some Computer 101 work
  - Where will your speakers be located?
  - Will you use or cover materials on different computers?
  - Will you use a phone line or computer microphone?
  - Will people be in the same room with you during the event?
  - Will you need to make files available before or after the event?
  - Will you record the event?

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Here are few tools available to you – across EPA – team websites

- QuickPlace (Lotus Notes username/password)
  - https://epaqpx.rtp.epa.gov/
  - http://epaquickplace1.rtp.epa.gov/
- Oracle Collaborative Workspaces (LAN username/password)
  - http://hawkeye.epa.gov/workspaces
- Environmental Science Connector (LAN username/password)
  - http://portal.epa.gov/ESC

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Why would you use this?

- How many times have you been involved with a project and said:
  - I can't find that email, can you resend it?
    - I deleted it…can you resend it?
  - I'm on travel and can't access your email…
  - That file is too large to send by email!
  - What's the file name? I can't find it on your FTP site.
  - Can you forward all the previous emails on that topic? I wasn't involved from the beginning and need to get up to speed.
  - What version are we working with?
  - Who edited this file?
  - We need to meet, tell me when you are free and we can schedule something…

QuickPlace

- A project team website can be created using the QuickPlace tool to address these issues
- Team website will give users options such as:
  - **Discussion:** gathering place for all resources related to a project
  - **Library:** houses the team's important QuickPlace pages
  - **Calendar:** place for adding and viewing critical dates relevant to the team's project
  - **Tasks:** tracking critical tasks assigned to team members
  - **Index:** listing of all the pages that have been contributed to the QuickPlace
  - **Customize:** set preferences for your QuickPlace
  - **Members:** QuickPlace manager can define who can read and author pages, members can change their passwords
- All of these options can be customized to meet the needs of a particular team
- Team page is created by an EPA tool and managed by its members so there is virtually no expense to the project team

QuickPlace

Pros

- Free to use
- Complete suite of team resources: calendar, tasks, discussion, library etc
- Customize look, feel, layout
- Create custom forms, work flow, etc
- Create and run autoscripts
- Unique URL (separate site management)
- Managers process external user accounts
- Bookmark URLs

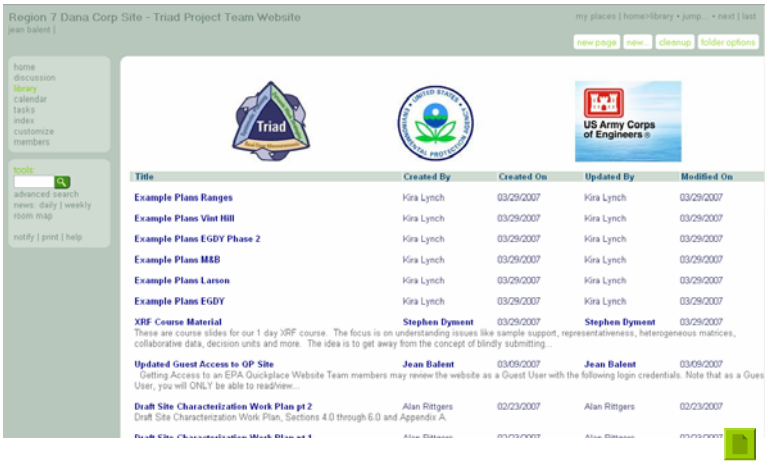
Cons

- Default settings use Active X
- Need RTP to approve request to create a QP
- No central directory of QPs
- Limited to 50 MB per upload
- Some issues with certain file types (PDFs)
- Some stability issues
- Little support for user community
- Look up by User ID
- Sign on to each QP individually

OSWER Experiences with QuickPlace

- Conference FTP
- Triad Community of Practice
- TTIB Branch Administration
- Regional/Site Technical Support
- TIFSD Contracts
- Federal Women's Program
- EPA Intern Program

Regional/Site Technical Support



Tips for Successful Team Websites

- Think about who will be involved, how long with they be involved
- What do you need to share? What will the group try to do?
- Put documents on site and refuse to email files to stimulate usage
- Promote the discussion board
- Take advantage of auto/quick notification features
- Need someone to act as the “gardener”…
  - Also need a “police man”, teacher, and firefighter!

General Issues To Consider

- Very little outreach about these tools beyond OEI events
- No central collaboration support
- Limited or no training available
- No independent/unbiased assessment comparing to other tools
- Tools compete with each other
- Tool managers don't know what we are doing with their resources, don't understand the value (time & cost savings), may not be making the best decisions for customers

Thank you!

Feel free to email me with comments, questions, or if you want help using these tools

Sign up/Join my ESC Project :
EPA Distance Collaboration Services
http://portal.epa.gov/ESC

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Using the Environmental Science Connector (ESC)

Holly N. Ferguson
Director of Quality Assurance
for EPA's National Center for Environmental Research
2008 Conference on Managing Environmental Quality Systems
April 21 - 24, 2008

Research and Development at EPA

- 1,950 employees
- $700 million budget
- $100 million extramural research grant program
- 13 lab or research facilities across the U.S.
- Credible, relevant and timely research results and technical support that inform EPA policy decisions

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RESEARCH & DEVELOPMENT
Building a scientific foundation for sound environmental decisions

Making decisions with sound science requires..

- Relevant, high quality, cutting-edge research in human health, ecology, pollution control and prevention, economics and decision sciences
- Proper characterization of scientific findings
- Appropriate use of science in the decision process

Research and development contribute uniquely to..

- Health and ecological research, as well as research in pollution prevention and new technology
- In-house research and an external grants program
- Problem-driven and core research

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High Priority Research Areas

- Human Health
- Particulate Matter
- Drinking Water
- Clean Water
- Global Change
- Endocrine Disruptors
- Ecological Risk
- Pollution Prevention
- Homeland Security

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RESEARCH & DEVELOPMENT
Building a scientific foundation for sound environmental decisions

The National Center for Environmental Research in EPA's Office of Research & Development

NCER's mission is to support high-quality research by the nation's leading scientists that will improve EPA's scientific basis for decisions on national environmental issues. NCER supports leading edge extramural research in exposure, effects, risk assessment, and risk management through competitions for STAR grants, fellowships, and research contracts under the Small Business Innovative Research Program.

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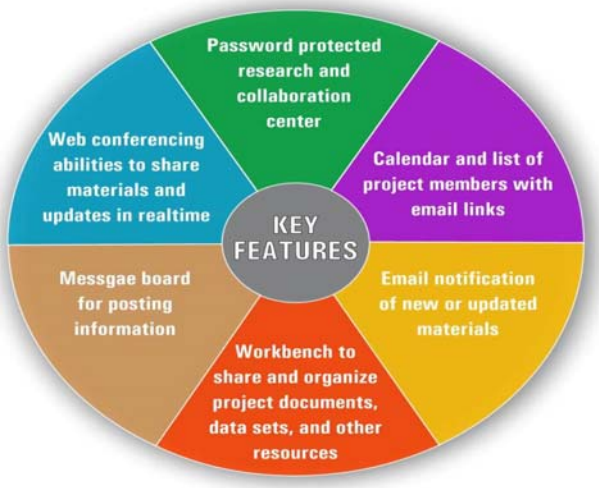
What is the ESC?

Essential Features All in One Place MDJ3



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Advantages and Potential Uses

- Collaborate and share research and project information
  - Conduct real-time, interactive scientific investigation in shared workspaces
  - Upload content using a file cabinet structure
  - Find related projects
- Customize content
  - Users organize their information to support the various ways that scientists work
  - Include QA documentation, review comments, and approvals
  - Include QA assessment reports, and follow up on corrective actions
  - Dynamic workspaces
  - Access tools, resources (e.g. Data, Models, Scientific Sources and Publications)

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RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

Solutions Provided by the ESC

- Easy to create projects
- Can access from anywhere in the world
- Easy for external collaborators to access
- One place to go to share project information
- Don't have to send large files and emails that bounce back
- Can perform investigations in real-time
- Include access for multiple QA Managers for multi-organizational collaborative efforts

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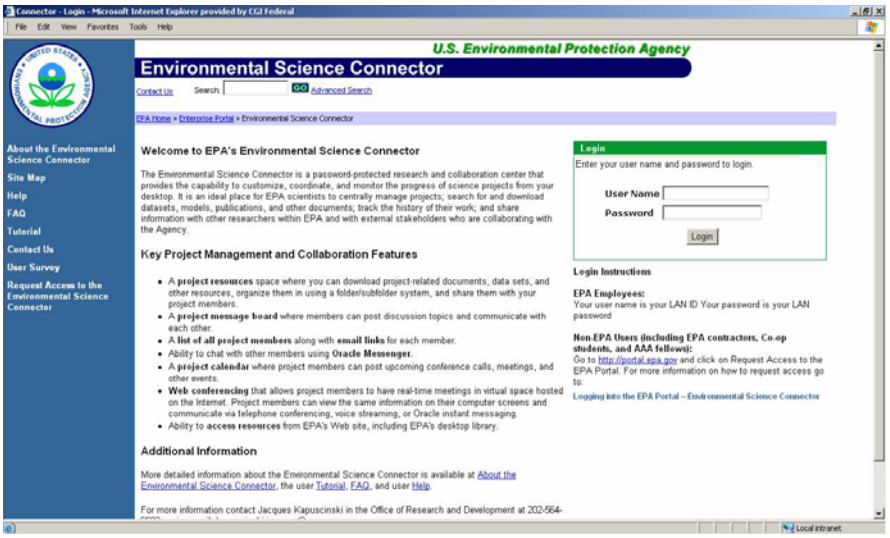
RESEARCH & DEVELOPMENT

Building a scientific foundation for sound environmental decisions

Logging On: http://portal.epa.gov/ESC



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Building a scientific foundation for sound environmental decisions

Required Info for External Collaborators

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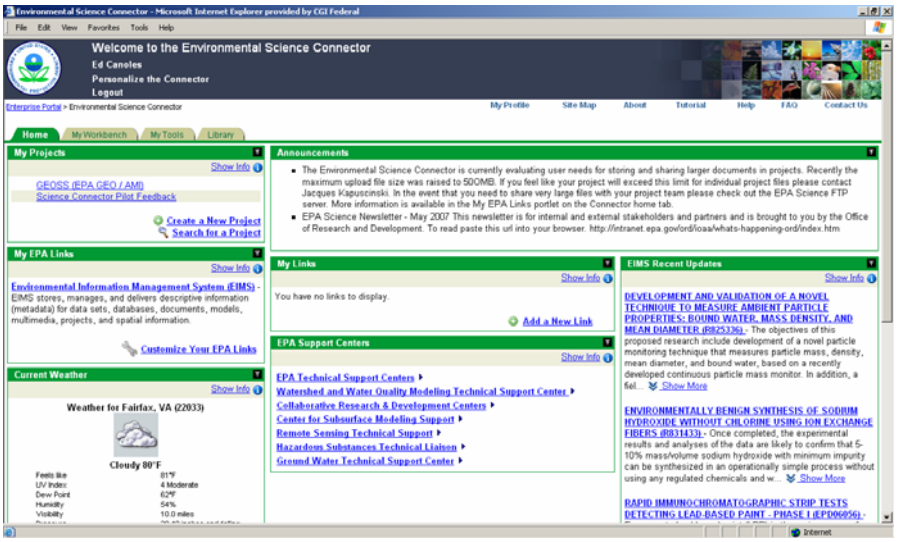
Building a scientific foundation for sound environmental decisions

Your ESC Home Page

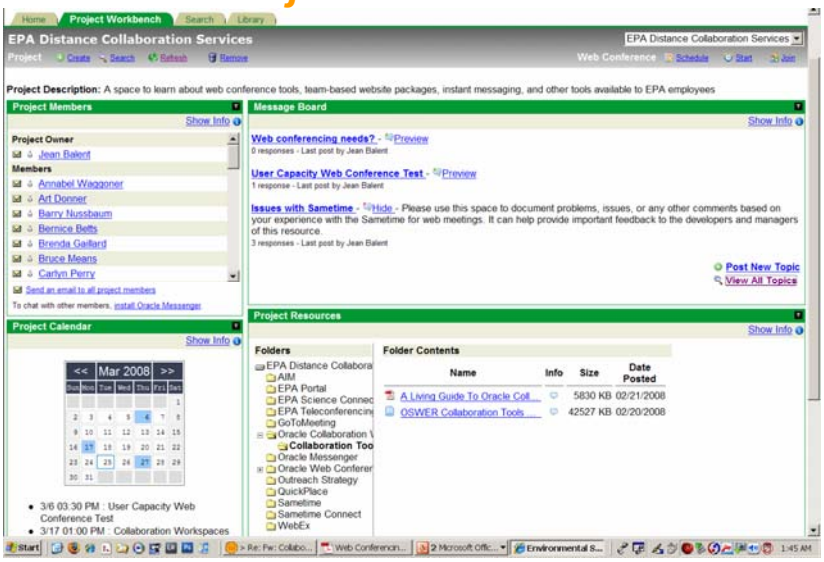


For conference purposes only.

My ESC Home Page

For conference purposes only.

Project Workbench



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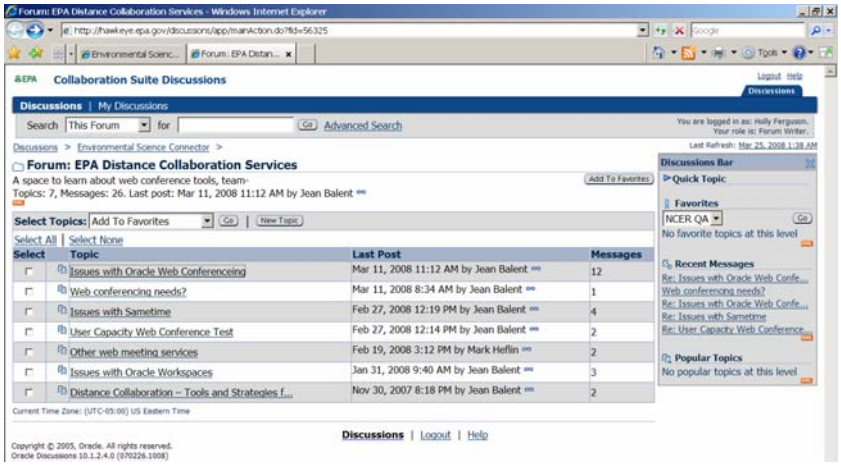
Discussion Forum / Message Board



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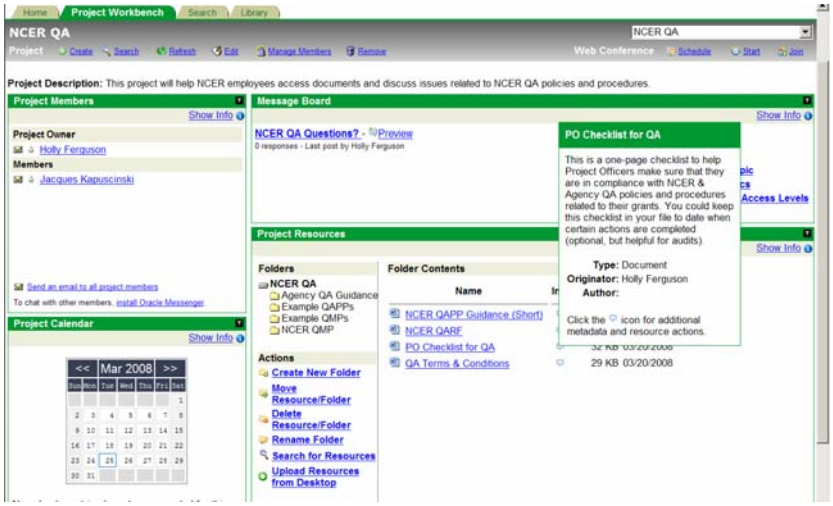
NCER QA Project Workbench



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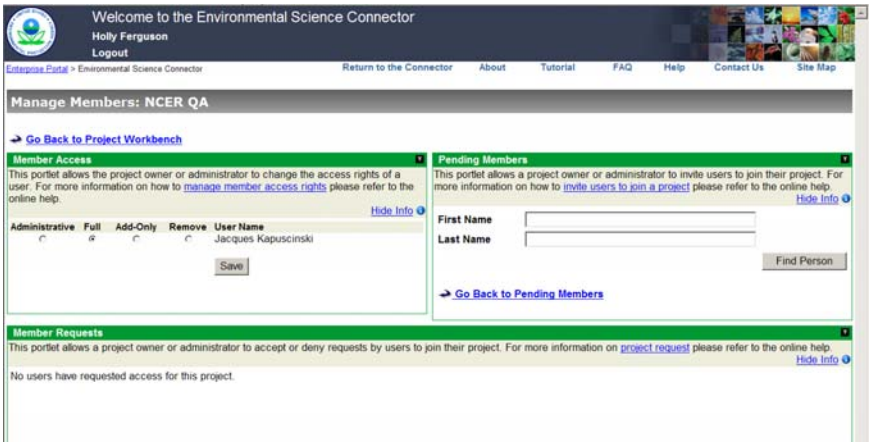
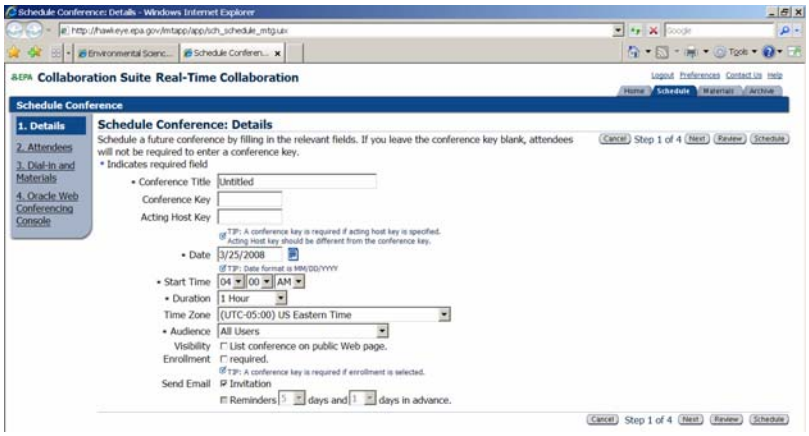
Manage Members



For conference purposes only.

Schedule a Web Conference



For Additional Information or Brainstorming, Contact:

- Holly Ferguson, *ferguson.holly@epa.gov*
  - Director of Quality Assurance in the National Center for Environmental Research in EPA's Office of Research & Development
  - Member of the ESC Steering Committee
  - Willing to help you brainstorm about new ways to use the ESC to further the EPA's goals for QA and make your work life *easier!*
- Jacques Kapuscinski, *kapuscinski.jacques@epa.gov*
  - Science Connector Community Manager, Information Management Section of the EPA's Office of Research and Development
  - Leader of the ESC Steering Committee
  - Able to provide technical information, detailed usage instructions, examples of usage, and even make presentations on the use of the ESC for your EPA organization

http://portal.epa.gov/ESC